

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

CMC MATERIALS, INC.,	)	
	)	C.A. No. 20-738-MN
Plaintiff,	)	
	)	<b>JURY TRIAL DEMANDED</b>
v.	)	
	)	<b>PUBLIC VERSION</b>
DUPONT DE NEMOURS, INC., et al.,	)	
	)	
Defendants.	)	

**DUPONT'S ANSWER, DEFENSES, AND FIRST AMENDED COUNTERCLAIMS  
TO PLAINTIFF'S FIRST AMENDED COMPLAINT**

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Dated: July 19, 2022  
10261888/00195.04092  
PUBLIC VERSION  
Dated: July 26, 2022

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

CMC MATERIALS, INC.,	)	
	)	C.A. No. 20-738-MN
Plaintiff,	)	
	)	<b>JURY TRIAL DEMANDED</b>
v.	)	
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DUPONT DE NEMOURS, INC., et al.,	)	
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Defendants.	)	

**DUPONT’S ANSWER, DEFENSES, AND FIRST AMENDED COUNTERCLAIMS  
TO PLAINTIFF’S FIRST AMENDED COMPLAINT**

Defendants DuPont de Nemours, Inc., Rohm and Haas Electronic Materials CMP, LLC, Rohm and Haas Electronic Materials CMP Asia Inc. (d/b/a Rohm and Haas Electronic Materials CMP Asia Inc., Taiwan Branch (U.S.A.)), Rohm and Haas Electronic Materials Asia-Pacific Co., Ltd., Rohm and Haas Electronic Materials K.K., Rohm and Haas Electronic Materials LLC (collectively, “Defendants”), through their counsel file this Answer, Defenses and First Amended Counterclaims to the First Amended Complaint (D.I. 23; “FAC”) of Plaintiff CMC Materials, Inc. (“Plaintiff”).

**GENERAL DENIAL**

Defendants deny each and every allegation in the FAC, except as hereinafter specifically admitted or explained. To the extent that the headings, or any other non-numbered statement in the FAC contains any allegations, Defendants deny each and every allegation therein. Defendants respond to the numbered Paragraphs in the FAC and the prayer for relief as follows:

**NATURE OF THE ACTION**

1. Defendants admit that the FAC purports to be “a civil action for patent infringement under the Patent Laws of the United States, 35 U.S.C. § 1 et seq., of CMC’s U.S. Patent No.

9,499,721 (the “’721 Patent”), and for such other relief as the Court deems just and proper.” Otherwise, paragraph 1 of the FAC contains legal conclusions to which no response is required.

2. Defendants lack knowledge and information sufficient to form a belief as to the truth of the allegations in Paragraph 2 of the FAC and, therefore, deny them.

3. Defendants admit that CMP slurries, including those not covered by the claims of the ’721 Patent, may play a role in the production of advanced semiconductor devices. Defendants admit that CMP slurries, including those not covered by the claims of the ’721 Patent, in conjunction with CMP pads, may be used to remove excess material that is deposited during steps in semiconductor device manufacturing and to level and smooth the surfaces of layers of the semiconductor devices via chemical reactions and/or mechanical abrasion. Defendants admit CMP may enable semiconductor manufacturers to produce smaller, faster, and more complex semiconductor devices with a greater density of transistors. Defendants lack knowledge and information sufficient to form a belief as to the truth of the allegations in the remainder of Paragraph 3 of the FAC and, therefore, deny them.

4. Defendants lack knowledge and information sufficient to form a belief as to the truth of the allegations of Paragraph 4 of the FAC and, therefore, deny them.

5. Defendants lack knowledge and information sufficient to form a belief as to the truth of the allegations of Paragraph 5 of the FAC and, therefore, deny them.

6. Defendants admit the allegation of the third sentence of Paragraph 6 of the FAC. Except as expressly admitted, Defendants deny the allegations in Paragraph 6 of the FAC.

7. Defendants deny the allegation in Paragraph 7 of the FAC.

8. Defendants admit the Opinion of the International Trade Commission (“ITC”), in Certain Chemical Mechanical Planarization Slurries and Components Thereof, Inv. No. 337-TA-

1204 (Exhibit C) speaks for itself. Except as expressly admitted, Defendants deny the allegations in Paragraph 8 of the FAC, including allegation of knowing infringement by any defendant.

9. Defendants admit the Initial Determination by the Administrative Law Judge (“ALJ”) in Certain Chemical Mechanical Planarization Slurries and Components Thereof, Inv. No. 337-TA-1204 (Exhibit B) speaks for itself. Except as expressly admitted, Defendants deny the allegations in Paragraph 9 of the FAC, including allegation of direct and/or indirect infringement by any defendant.

10. Defendants deny the allegation in Paragraph 10 of the FAC.

11. Defendants admit that Paragraph 11 of the FAC accurately quotes page 134, 143, 211 of Exhibit B. Statements made by the ALJ speak for themselves. Except as expressly admitted, Defendants deny the allegations in Paragraph 11 of the FAC.

12. Defendants admit that Paragraph 12 of the FAC accurately quotes pages 210-211 of Exhibit B. Statements made by the ALJ speak for themselves. Defendants admit that U.S. Patent No. 10,557,060, which was filed by a non-defendant on behalf of Taiwanese inventors, recited the quoted language. Except as expressly admitted, Defendants deny the allegations in Paragraph 12 of the FAC.

13. Defendants admit that Paragraph 13 of the FAC accurately quotes page 134 of Exhibit B. Statements made by the ALJ speak for themselves. Defendants admit that Plaintiff sent a letter to only defendant Rohm and Haas Electronic Materials CMP Inc. (now Rohm and Haas Electronic Materials CMP, LLC) with a carbon copy to defendant Rohm and Haas Electronic Materials LLC and Defendant DuPont de Nemours, Inc., alleging infringement of the ’721 Patent. Except as expressly admitted, Defendants deny the allegation in Paragraph 13 of the FAC.

14. Defendants deny the allegation in Paragraph 14 of the FAC.

15. Defendants admit the allegations of the last sentences in Paragraph 15 of the FAC. Defendants admit that Paragraph 15 of the FAC accurately quotes pages 14, 19 of Exhibit C. Statements made by the ITC speak for themselves. Except as expressly admitted, Defendants deny the allegations in Paragraph 15 of the FAC.

16. Defendants admit the allegations of the first and second sentence in Paragraph 16 of the FAC. Defendants deny the remaining allegations in Paragraph 16 of the FAC.

### **THE PARTIES**

17. Defendants lack knowledge and information sufficient to form a belief as to the truth of the allegation in Paragraph 17 of the FAC and, therefore, deny them.

18. Defendants admit that DuPont de Nemours, Inc. is a Delaware corporation with a place of business at 974 Centre Road, Building 730, Wilmington, DE, 19805, and the ultimate parent of the remaining defendants. Except as expressly admitted, Defendants deny the allegations in Paragraph 18 of the FAC.

19. Defendants admit that Rohm and Haas Electronic Materials CMP, LLC is a Delaware limited liability company and a subsidiary of DuPont de Nemours, Inc. with a place of business at 451 Bellevue Road, Newark, DE 19713. Defendants admit that Rohm and Haas Electronic Materials CMP, LLC made, used, sold, and offered to sell Optiplane™ 2300 and 2600 family of products, but deny any wrongdoing in violation of, or liability under, the law. Except as expressly admitted, Defendants deny the allegations in Paragraph 19 of the FAC.

20. Defendants admit that Rohm and Haas Electronic Materials CMP Asia Inc., d/b/a Rohm and Haas Electronic Materials CMP Asia Inc., Taiwan Branch (U.S.A.), is a Delaware corporation and a subsidiary of DuPont de Nemours, Inc. with a place of business at 4F., NO.6, LN. 280, Zhongshan N. Rd., Dayuan Dist., Taoyuan City, 337017 Taiwan. Except as expressly admitted, Defendants deny the allegations in Paragraph 20 of the FAC.

21. Defendants admit that Rohm and Haas Electronic Materials Asia-Pacific Co., Ltd. is a Taiwanese corporation and a subsidiary of DuPont de Nemours, Inc. with a place of business at 6, Kesi 2nd Rd., Chunan, Miaoli, 350401 Taiwan. Except as expressly admitted, Defendants deny the allegations in Paragraph 21 of the FAC.

22. Defendants admit that Rohm and Haas Electronic Materials K.K. is a Japanese corporation and a subsidiary of DuPont de Nemours, Inc. with a place of business in Japan. Defendants admit that Rohm and Haas Electronic Materials K.K. was listed as a shipper of record for some components of Optiplane™ 2300 and 2600 family of products, but deny any wrongdoing in violation of, or liability under, the law. Except as expressly admitted, Defendants deny the allegations in Paragraph 22 of the FAC.

23. Defendants admit that Rohm and Haas Electronic Materials LLC is a Delaware limited liability company and a subsidiary of DuPont de Nemours, Inc. with a place of business at 455 Forest Street, Marlborough, MA 01752-300. Except as expressly admitted, Defendants deny the allegations in Paragraph 23 of the FAC.

### **JURISDICTION AND VENUE**

24. Defendants incorporate their responses to each of Paragraphs 1-23 as if fully set forth here.

25. Defendants admit that this Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a) for actions arising under the patent laws of the United States, including 35 U.S.C. § 271 but deny any wrongdoing in violation of, or liability under, such laws. Otherwise, paragraph 25 of the FAC contains legal conclusions to which no response is required.

26. Defendants do not contest that the United States District Court for the District of Delaware has personal jurisdiction over DuPont de Nemours, Inc. for the limited purposes of this civil action only. Defendants admit that DuPont de Nemours, Inc. is an entity organized under the

laws of Delaware, has transacted substantial business in Delaware, and has a place of business in Delaware. Except as expressly admitted, Defendants deny the allegations in Paragraph 26 of the FAC.

27. Defendants do not contest that the United States District Court for the District of Delaware has personal jurisdiction over Rohm and Haas Electronic Materials CMP, LLC for the limited purposes of this civil action only. Defendants admit that Rohm and Haas Electronic Materials CMP, LLC is an entity organized under the laws of Delaware, has transacted substantial business in Delaware, and has a place of business in Delaware. Except as expressly admitted, Defendants deny the allegations in Paragraph 27 of the FAC.

28. Defendants do not contest that the United States District Court for the District of Delaware has personal jurisdiction over Rohm and Haas Electronic Materials CMP Asia Inc., d/b/a Rohm and Haas Electronic Materials CMP Asia Inc., Taiwan Branch (U.S.A.) for the limited purposes of this civil action only. Defendants admit that Rohm and Haas Electronic Materials CMP Asia Inc., d/b/a Rohm and Haas Electronic Materials CMP Asia Inc., Taiwan Branch (U.S.A.) is an entity organized under the laws of Delaware. Except as expressly admitted, Defendants deny the allegations in Paragraph 28 of the FAC.

29. Defendants do not contest that the United States District Court for the District of Delaware has personal jurisdiction over Rohm and Haas Electronic Materials Asia-Pacific Co., Ltd. for the limited purposes of this civil action only. Except as expressly admitted, Defendants deny the allegations in Paragraph 29 of the FAC.

30. Defendants do not contest that the United States District Court for the District of Delaware has personal jurisdiction over Rohm and Haas Electronic Materials K.K. for the limited

purposes of this civil action only. Except as expressly admitted, Defendants deny the allegations in Paragraph 30 of the FAC.

31. Defendants do not contest that the United States District Court for the District of Delaware has personal jurisdiction over Rohm and Haas Electronic Materials LLC for the limited purposes of this civil action only. Defendants admit that Rohm and Haas Electronic Materials LLC is an entity organized under the laws of Delaware. Except as expressly admitted, Defendants deny the allegations in Paragraph 31 of the FAC.

32. Defendants deny the allegations in Paragraph 32 of the FAC. Defendants incorporate their responses to each of Paragraphs 34-62 as if fully set forth here. Regarding statements made by the ALJ and ITC, such statements speak for themselves.

33. Paragraph 33 of the FAC contains legal conclusions to which no response is required. To the extent any response is required, Defendants do not contest venue in the United States District Court for the District of Delaware for the limited purposes of this civil action only. Except as expressly admitted, Defendants deny the allegations in Paragraph 33 of the FAC.

### **COUNT 1**

34. Defendants incorporate their responses to each of Paragraphs 1-33 as if fully set forth here.

35. Defendants deny the allegation in Paragraph 35 of the FAC.

36. Defendants deny the allegation in Paragraph 36 of the FAC.

37. Defendants deny the allegations in Paragraph 37 of the FAC. Regarding statements made by the ALJ and ITC, such statements speak for themselves.

38. Defendants admit that Paragraph 38 of the FAC accurately quotes page 92 of Exhibit B. Statements made by the ALJ speak for themselves. Defendants admit that the Optiplane™ 2300 and 2600 family of products have been used for chemical mechanical



planarization. Except as expressly admitted, Defendants deny the allegations in Paragraph 38 of the FAC, including any allegation that the Accused Products infringe any claim of the '721 Patent.

39. Defendants admit that Paragraph 39 of the FAC accurately quotes page 93 of Exhibit B. Statements made by the ALJ speak for themselves. Defendants admit that the Optiplane™ 2300 and 2600 family of products comprised water. Except as expressly admitted, Defendants deny the allegations in Paragraph 39 of the FAC, including any allegation that the Accused Products infringe any claim of the '721 Patent.

40. Defendants admit that Paragraph 40 of the FAC accurately quotes pages 93-94 of Exhibit B. Statements made by the ALJ speak for themselves. Defendants admit that the Optiplane™ 2300 and 2600 family of products comprised colloidal silica particles dispersed in water. Except as expressly admitted, Defendants deny the allegations in Paragraph 40 of the Complaint, including any allegation that the Accused Products infringe any claim of the '721 Patent.

41. Defendants admit that Paragraph 41 of the FAC accurately quotes pages 95-96 of Exhibit B. Statements made by the ALJ speak for themselves. Defendants admit that the Optiplane™ 2300 and 2600 family of products comprised a colloidal silica particle incorporating a chemical species that is a nitrogen-containing compound or a phosphorous-containing compound. Except as expressly admitted, Defendants deny the allegations in Paragraph 41 of the FAC, including any allegation that the Accused Products infringe any claim of the '721 Patent.

42. Defendants admit that Paragraph 42 of the FAC accurately quotes page 97 of Exhibit B. Statements made by the ALJ speak for themselves. Defendants admit that the Optiplane™ 2300 and 2600 family of products were acidic. Except as expressly admitted,

Defendants deny the allegation in Paragraph 42 of the FAC, including any allegation that the Accused Products infringe any claim of the '721 Patent.

43. Defendants admit that Paragraph 43 of the FAC accurately quotes pages 97-99 of Exhibit B. Statements made by the ALJ speak for themselves. Except as expressly admitted, Defendants deny the allegations in Paragraph 43 of the FAC, including any allegation that the Accused Products infringe any claim of the '721 Patent.

44. Defendants admit that Paragraph 44 of the FAC accurately quotes page 106 of Exhibit B. Statements made by the ALJ speak for themselves. Defendants admit that the chemical species discussed by the ALJ is not an aminosilane or a phosphonium silane. Except as expressly admitted, Defendants deny the allegations in Paragraph 44 of the FAC, including any allegation that the Accused Products infringe any claim of the '721 Patent.

45. Defendants incorporate their responses to each of Paragraphs 36-44 as if fully set forth here. Regarding statements made by the ALJ and ITC, such statements speak for themselves. Except as expressly admitted, Defendants deny the allegation in Paragraph 45 of the FAC, including any allegation that the Accused Products infringe any claim of the '721 Patent.

46. Regarding statements made by the ALJ and ITC, such statements speak for themselves. Except as expressly admitted, Defendants deny the allegation in Paragraph 46 of the FAC, including any allegation that the Accused Products infringe any claim of the '721 Patent.

47. Paragraph 47 of the FAC contains legal conclusions to which no response is required. To the extent any response is required, Defendants deny the allegations in Paragraph 47 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(a).

48. Defendants admit that Paragraph 48 of the FAC accurately quotes page 140 of Exhibit B, page 19 of Exhibit C, and page 2 of Exhibit E. Statements made by the ALJ and ITC speak for themselves. Defendants admit their statement from Exhibit E. Except as expressly admitted, Defendants deny the allegations in Paragraph 48 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(a).

49. Defendants admit that Paragraph 49 of the FAC accurately quotes page 129 of Exhibit B, page 3 of Exhibit E, and page 1 of Exhibit F. Statements made by the ALJ speak for themselves. Defendants deny the “admission” of “DuPont” is by defendant DuPont de Nemours, Inc. Defendants admit that Exhibit D identified Optiplane™ slurries. Defendants admit their statements from Exhibits E and F. Except as expressly admitted, Defendants deny the allegations in Paragraph 49 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(a).

50. Defendants admit that Rohm and Haas Electronic Materials K.K. was listed as a shipper of record for some components of the Optiplane™ 2300 and 2600 family of products, but deny any wrongdoing in violation of, or liability under, 35 U.S.C. § 271(a). Except as expressly admitted, Defendants deny the allegation in Paragraph 50 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(a).

51. Defendants deny the allegation in Paragraph 51 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(b) & (c).

52. Defendants incorporate their responses to each of Paragraphs 1-51 as if fully set forth here. Defendants admit that the ITC adjudicated infringement of the Asserted Claims by the Optiplane™ 2300 and 2600 family of products on December 16, 2022 (*see* Exhibit C); however, as reported in the Limited Exclusion Order and Cease and Desist Orders, the ITC concluded that

“chemical mechanical planarization slurries, which include colloidal silica abrasive particles, and colloidal silica abrasive particles” ... “are entitled to entry for consumption into the United States, entry for consumption from a foreign trade zone, entry into a bonded warehouse or foreign trade zone, or withdrawal from a warehouse for consumption where the covered articles are being used by entities currently using the covered products in an ongoing semiconductor chip fabrication development project and have a documented need to continue receiving the covered products” and that “entities currently using the covered products in an ongoing semiconductor chip fabrication development project and have a documented need to continue receiving the covered products may continue to receive the covered products.” Except as expressly admitted, Defendants deny the allegations in Paragraph 52 of the FAC, including any allegations of knowing and willful infringement.

53. Paragraph 53 of the FAC contains legal conclusions to which no response is required. To the extent any response is required, Defendants admit that Paragraph 53 of the FAC accurately quotes page 139 of Exhibit B. Statements made by the ALJ speak for themselves. Except as expressly admitted, Defendants deny the allegations in Paragraph 53 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(b).

54. Defendants deny that Paragraph 54 of the FAC accurately quotes the ITC at page 17 of Exhibit C. Statements made by the ITC speak for themselves. Defendants admit that Rohm and Haas Electronic Materials K.K. was listed as a shipper of record for some components of the Optiplane™ 2300 and 2600 family of products, but deny any wrongdoing in violation of, or liability under, 35 U.S.C. § 271(b). Except as expressly admitted, Defendants deny the allegations in Paragraph 54 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(b).

55. Defendants admit that Rohm and Haas Electronic Materials CMP Asia Inc. (d/b/a Rohm and Haas Electronic Materials CMP Asia Inc., Taiwan Branch (U.S.A.)) and Rohm and Haas Electronic Materials Asia-Pacific Co., Ltd. engaged in marketing, selling, and offering to sell the Optiplane™ 2300 and 2600 family of products outside the United States, which do not constitute infringing activities in the United States under 35 U.S.C. § 271(a), and deny any action that constitutes inducing infringement in violation of, or liability under, 35 U.S.C. § 271(b). Except as expressly admitted, Defendants deny the allegations in Paragraph 55 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(b).

56. Defendants admit that Paragraph 56 of the FAC accurately quotes pages 138 and 139 of Exhibit B. Statements made by the ALJ speak for themselves. Defendants admit that Rohm and Haas Electronic Materials CMP, LLC supplied the Optiplane™ 2300 and 2600 family of products with supporting documentation, but deny any action that constitutes inducing infringement in violation of, or liability under, 35 U.S.C. § 271(b). Except as expressly admitted, Defendants deny the allegations in Paragraph 56 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(b).

57. Paragraph 57 of the FAC contains legal conclusions to which no response is required. To the extent any response is required, Defendants deny the allegations in Paragraph 57 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(c).

58. Defendants admit that Paragraph 58 of the FAC accurately quotes page 140 of Exhibit B and page 19 of Exhibit C. Statements made by the ALJ and ITC speak for themselves. Defendants admit that Rohm and Haas Electronic Materials K.K. was listed as a shipper of record for some components of the Optiplane™ 2300 and 2600 family of products, but deny any action

that constitutes contributing to infringement in violation of, or liability under, 35 U.S.C. § 271(c). Defendants admit that Rohm and Haas Electronic Materials CMP, LLC used the particles to make and test Optiplane™ 2300 and 2600 family of products, but deny any action that constitutes infringement in violation of, or liability under, 35 U.S.C. § 271(b). Except as expressly admitted, Defendants deny the allegations in Paragraph 58 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(c).

59. Defendants admit that Paragraph 59 of the FAC accurately quotes pages 136, 141, 142 of Exhibit B. Statements made by the ALJ speak for themselves. Except as expressly admitted, Defendants deny the allegations in Paragraph 59 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(c).

60. Defendants admit that Paragraph 60 of the FAC accurately quotes page 143 of Exhibit B. Statements made by the ALJ speak for themselves. Except as expressly admitted, Defendants deny the allegations in Paragraph 60 of the FAC, including any allegation of wrongdoing in violation of, or liability under, 35 U.S.C. § 271(c).

61. Paragraph 61 of the FAC contains legal conclusions to which no response is required. To the extent any response is required, Defendants admit that Paragraph 61 of the FAC accurately quotes page 134 of Exhibit B. Statements made by the ALJ speak for themselves. Defendants admit receiving a ruling by the ITC in favor of CMC on December 16, 2022 (*see* Exhibit C); however, as reported in the Limited Exclusion Order and Cease and Desist Orders, the ITC concluded that “chemical mechanical planarization slurries, which include colloidal silica abrasive particles, and colloidal silica abrasive particles” ... “are entitled to entry for consumption into the United States, entry for consumption from a foreign trade zone, entry into a bonded warehouse or foreign trade zone, or withdrawal from a warehouse for consumption where the

covered articles are being used by entities currently using the covered products in an ongoing semiconductor chip fabrication development project and have a documented need to continue receiving the covered products” and that “entities currently using the covered products in an ongoing semiconductor chip fabrication development project and have a documented need to continue receiving the covered products may continue to receive the covered products.” Except as expressly admitted, Defendants deny the allegations in Paragraph 61 of the FAC, including any allegation of willful infringement.

62. Defendants deny the allegation of the first sentence of Paragraph 62 of the FAC. With respect to the second sentence of Paragraph 62, Defendant deny willful, unauthorized, and improper use of the '721 Patent. Defendants deny Defendants lack knowledge and information sufficient to form a belief as to the truth of the remaining allegations in Paragraph 62 of the FAC and, therefore, deny them.

#### **PRAYER FOR RELIEF**

Defendants deny that Plaintiff is entitled to any relief, whatsoever, including as requested in the Prayer for Relief of the FAC. Defendants have not and do not infringe any claim of the '721 Patent either jointly, individually, or otherwise. Defendants have not and do not directly, by inducement, or contributorily infringe any claim of the '721 Patent, either literally or under the doctrine of equivalents. Defendants have not and do not willfully infringe any claim of the '721 Patent.

#### **DEMAND FOR JURY TRIAL**

Defendants do not object to a trial by jury on all issues so triable in accordance with Rule 38 of the Federal Rules of Civil Procedure.

## **DEFENSES**

Without prejudice to the denials set forth in its Answer, and without admitting any allegation of the FAC not expressly admitted herein, Defendants assert the following separate defenses to the FAC. Defendants do not assume the burden of proof for any such defenses, except as required by the applicable law with respect to the particular defense asserted. Defendants reserve their right to amend their defenses and assert additional defenses that may become known through the course of discovery.

### **First Defense: Failure to State a Claim**

1. The FAC fails to state a claim upon which relief can be granted because the Defendants, individually and jointly, have not performed any act or thing and is not proposing to perform any act or thing in violation of any rights validly belonging to Plaintiff.

### **Second Defense: No Infringement**

2. Defendants, individually and jointly, do not infringe and have not infringed, either directly or indirectly, any valid or enforceable claim of the '721 Patent either literally or under the doctrine of equivalents.

### **Third Defense: No Willful Infringement**

3. Defendants have not willfully infringed any claim of the '721 Patent.

### **Fourth Defense: No Exceptional Case**

4. This is not an exceptional case justifying an award of attorneys' fees against Defendants pursuant to 35 U.S.C. § 285 with respect to the lone count of the FAC.

### **Fifth Defense: Invalidity**

5. One or more claims of the '721 Patent are invalid for failure to meet one or more conditions for patentability specified in Title 35 of the United States Code, including, but not



limited to, 35 U.S.C. §§ 101, 102, 103, 112, 115, 116 and/or 256, and/or judicially created doctrines of invalidity.

**Sixth Defense: Ensnarement**

6. To the extent that Plaintiff alleges infringement under the doctrine of equivalents, such a theory of infringement would be precluded insofar as the claims, as interpreted by Plaintiff to encompass an Accused Product, would ensnare prior art.

**Seventh Defense: Claim Construction Estoppel**

7. Plaintiff is estopped from construing the asserted claims of the '721 Patent to cover an Accused Product because representations, omissions and/or concessions made during prosecution of the patent, and/or related U.S. or foreign patents and patent applications, limit the scope of the claims of the '721 Patent.

**Eighth Defense: Prosecution History Estoppel**

8. Prosecution history estoppel bars Plaintiff from asserting infringement under the doctrine of equivalents of the claims of the '721 Patent and from adopting claim construction positions contrary to statements and amendments made during prosecution of the patents and/or related U.S. or foreign patents and patent applications.

**Ninth Defense: Statutory Limitation on Damages**

9. Plaintiff's claim for alleged damages is statutorily limited to the extent barred, prevented, or restricted by 35 U.S.C. §§ 286, 287, and/or 288 and by 28 U.S.C. § 1498. Defendants allege on information and belief that any claim for pre-lawsuit damages is barred, in whole or in part, for failure to comply with the marking notice and requirements of 35 U.S.C. § 287.

**Tenth Defense: No Equitable Entitlement to Injunctive Relief**

10. Plaintiff has no entitlement for injunctive relief at least because any alleged injury to Plaintiff is not immediate or irreparable and Plaintiff has an adequate remedy at law for its claims.

**Eleventh Defense: Unenforceability Due to Inequitable Conduct**

11. As set forth in Defendants' Third Counterclaim of Unenforceability of the '721 Patent, which is incorporated herein as a defense, one or more of the applicants for the '721 Patent committed inequitable conduct during prosecution by misrepresenting material facts and failing to disclose material information to the United States Patent and Trademark Office ("USPTO"), with an intent to deceive the USPTO in order to secure allowance of the '721 patent. Plaintiff cannot enforce the '721 Patent against Defendants because it was obtained by inequitable conduct.

**Twelfth Defense: Unenforceability Due to Unclean Hands**

12. As set forth in Defendants' Eighth Counterclaim of Unenforceability Due to Patent Misuse, which is incorporated herein as a defense, Plaintiff cannot obtain relief, including injunctive relief, as a result of unclean hands in connection with the prosecution, acquisition, and enforcement of the '721 patent.

**OTHER DEFENSES**

13. Defendants reserve the right to amend its Answer, Defenses, and Counterclaims to include other affirmative defenses that Defendants may learn of during the course of this Investigation and throughout the course of discovery.

**FIRST AMENDED COUNTERCLAIMS**

For its counterclaims against CMC Materials, Inc. ("CMC", "Plaintiff", or "Counterclaim Defendant"), Defendants DuPont de Nemours, Inc., and Rohm and Haas Electronic Materials CMP, LLC, (individually or collectively, "Counterclaim Plaintiffs") state as follows:

### **PARTIES**

1. DuPont de Nemours, Inc. is a Delaware corporation with its principal place of business at 974 Centre Road, Building 730, Wilmington, DE 19805.

2. Rohm and Haas Electronic Materials CMP, LLC is a Delaware limited liability company with its principal place of business at 451 Bellevue Road, Newark, DE 19713.

3. On information and belief, Cabot Microelectronics Corporation (“CMC”) is a Delaware corporation with its principal place of business at 870 North Commons Drive, Aurora, IL 60504.

### **JURISDICTION AND VENUE**

4. This Court has subject matter jurisdiction over the federal law counterclaims under 28 U.S.C. §§ 1331 (federal question jurisdiction), 1337, 1338, 2201-2202, and 15 U.S.C. § 4, and has subject matter jurisdiction over Counterclaim Plaintiffs’ state law counterclaims under 28 U.S.C. § 1367(a) (supplemental jurisdiction) because the state law counterclaims arise from the same case or controversy as Counterclaim Plaintiffs’ Lanham Act and patent law counterclaims.

5. The Court has personal jurisdiction over Counterclaim Defendant because Counterclaim Defendant commenced and continues to maintain this action against Counterclaim Plaintiffs in this judicial District. CMC is also subject to personal jurisdiction in this judicial District because CMC is incorporated in Delaware.

6. Venue for these counterclaims is proper in this judicial District pursuant to 15 U.S.C. §§ 15 and 22, 28 U.S.C. §§ 1391(b)-(c) and 1400(b).

### **ACTS GIVING RISE TO THESE COUNTERCLAIMS**

7. Defendants bring counterclaims directed to non-infringement, invalidity, and unenforceability of U.S. Patent No. 9,499,721 (the “’721 patent” or the “Asserted Patent”), antitrust violations, unfair competition, tortious interference, and patent misuse, as set forth below.

### Colloidal Silica Abrasive Particles for Chemical Mechanical Planarization

8. Fuso Chemical Co., Ltd. (“Fuso”) is a supplier of colloidal silica abrasive particles, including ultra-pure colloidal silica particles. (D.I. 1 at ¶ 28.) [REDACTED]

[REDACTED] On information and belief, Fuso has been supplying colloidal silica particles to be used in CMP slurry products since at least 2009.

9. As reflected in CMC’s own documents, [REDACTED]  
[REDACTED] This is reflected in, for example, [REDACTED]

10. As reflected in CMC’s own documents, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

11. In the [REDACTED]  
[REDACTED]  
[REDACTED]

12. On information and belief and as reflected in CMC’s own documents, CMC understood that [REDACTED]

[REDACTED] This is reflected in, for example, [REDACTED]

[REDACTED]

13. Counterclaim Plaintiffs have been customers of Fuso since [REDACTED] purchasing colloidal silica particle products for use in CMP slurries.

[REDACTED]

14. On information and belief and as reflected in CMC's own documents, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] including through  
anticompetitive [REDACTED]

15. On information and belief, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] On information and belief and as reflected in CMC's own documents, [REDACTED]  
[REDACTED]

16. On information and belief and as reflected in CMC's own documents, [REDACTED]  
[REDACTED] with anticompetitive  
intent and effect, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]

[REDACTED]

17. On information and belief and as reflected in CMC's documents, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] On information and belief and as reflected in CMC's own documents, CMC

used its market power to coerce or otherwise induce Fuso into [REDACTED]

[REDACTED] as further described below.

18. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

19. As reflected in CMC's own documents, prior to the filing of the '721 patent in 2015,

[REDACTED]

[REDACTED]

[REDACTED] On

information and belief and as reflected in CMC's own documents, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

20. On information and belief and as reflected in CMC's documents, as of at least May 2013, [REDACTED]

[REDACTED]

[REDACTED] On information and belief and as reflected in CMC's own documents, [REDACTED]

[REDACTED]

[REDACTED] This is shown in, for example [REDACTED]

21. On information and belief and reflected in CMC's own documents, [REDACTED]

22. For example, [REDACTED]

[REDACTED] This is reflected in, for example, [REDACTED]

23. In this regard, as reflected in a

24. As further reflected in the

acting in the course of their



employment and within the scope of their authority, the intent, efforts, and actions to use [REDACTED] to interfere with the supply of ultra-pure colloidal silica particles suitable for use in high-performance dielectric CMP slurry components and compositions for polishing silicon oxygen containing materials, and knowledge thereof, are imputed to CMC.

25. As another example of CMC seeking to use and using its market power to anticompetitively interfere with the supply of ultra-pure colloidal silica particles suitable for use in high-performance dielectric CMP slurry components and compositions for polishing silicon oxygen containing materials, on information and belief and as reflected in CMC's own documents,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

26. On information and belief, CMC considers Counterclaim Plaintiffs to be a competitor to CMC's CMP products. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

27. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] This is reflected in, for example, [REDACTED]

[REDACTED]

[REDACTED]

28. As an example, [REDACTED]

[REDACTED] This is reflected in, for example, [REDACTED]

[REDACTED]

[REDACTED] On information and belief, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

29.

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] s. This  
is reflected in, for example, [REDACTED]

30. On information and belief and as reflected in CMC's own documents, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] This is reflected in, for example,  
[REDACTED]  
[REDACTED]

31. On information and belief, [REDACTED]

32. On information and belief, [REDACTED]

33. On information and belief, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]

34. For example, [REDACTED]

[REDACTED]  
[REDACTED] This

is reflected in, for example, [REDACTED]

[REDACTED] However, as reflected in CMC's own  
documents, [REDACTED]

[REDACTED] As reflected in CMC's own documents, [REDACTED]

[REDACTED]  
[REDACTED]

35. As reflected in CMC's own documents, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED] This is reflected in, for example, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED] On information and belief and as reflected in CMC's own documents,  
[REDACTED]  
[REDACTED]  
[REDACTED].

36. As reflected in CMC's own documents, [REDACTED]  
[REDACTED]  
[REDACTED] This is shown in, for example, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

37. As reflected in CMC's own documents, [REDACTED]  
[REDACTED]  
[REDACTED]

38. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

39. [REDACTED] CMC  
then accused Counterclaim Plaintiffs—but not Fuso—of inducing infringement of the '721 patent

through the importation of Fuso's BS-3 particles. In contrast and after the '721 patent had issued,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] CMC presented allegations of induced and contributory infringement to the ITC involving BS-3 particles and CMC successfully obtained an exclusion order preventing Counterclaim Plaintiffs from importing BS-3 particles. *Certain Chem. Mech. Planarization Slurries*, Inv. No. 337-TA-1237, Complaint (June 1, 2020) ("ITC Action"); D.I. 23 Exhibit C, Public Comm'n Op. (Jan. 6, 2022) (granting cease-and-desist and limited exclusion orders).

### **The '721 Patent**

40. On June 25, 2015, CMC filed the application that led to the '721 patent. The '721 patent claims priority to a provisional application filed June 25, 2014.

41. On information and belief and as reflected in CMC's own documents, CMC's named inventors (Steven Grumbine, Jeffrey Dysard, Ernest Shen, and Mary Cavanaugh) and prosecution counsel (Thomas Omholt and Christopher Streinz) were aware of highly material information during the prosecution of the '721 patent but withheld and misrepresented it from the U.S. Patent and Trademark Office ("PTO") with an intent to deceive.

42. On information and belief, and as reflected in their selective disclosure, with an intent to deceive, CMC's named inventors and prosecution counsel actively concealed [REDACTED] [REDACTED], that had been [REDACTED] prior to the filing date of the application for the '721 patent, and [REDACTED] Their

intent to deceive is reflected in, for example, [REDACTED]

[REDACTED] Those prior art Fusso particles would have established a prima facie case of unpatentability of subject matter claimed therein and [REDACTED]

[REDACTED] The withheld and misrepresented information reflects a deliberately planned and carefully executed scheme to defraud the PTO.

43. As reflected in CMC's own documents, at least CMC's named inventors were aware of [REDACTED]

[REDACTED] This was material information at least because each of these catalysts is claimed in the '721 patent as a "chemical species incorporated in the colloidal silica abrasive particles internal to an outer surface thereof." At least CMC's named inventors were also aware that [REDACTED]

[REDACTED] CMC's named inventors and prosecution counsel would have been aware that this information was material to the patentability of the claimed subject matter based at least on the claims they contended to have invented, [REDACTED]

[REDACTED] and arguments they made during prosecution.

44. As reflected in CMC's own documents, at least the named CMC inventors were aware that prior to the filing date of the application for the '721 patent, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] As reflected in CMC's own documents, these [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] CMC's named inventors and prosecution counsel would have been aware that this information was material to the patentability of the claimed subject matter based at least on the claims they contended to have invented, [REDACTED]

[REDACTED] and

arguments they made during prosecution. On information and belief including as reflected in their

[REDACTED], at least CMC's

named inventors intentionally and actively concealed their knowledge that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



45. On information and belief and as reflected in CMC's own documents, [REDACTED] [REDACTED] were material to the claimed subject matter, including claim 1, which requires as components only: (1) an acidic "water based liquid carrier" at a pH of about 3.5 to about 6 and (2) "colloidal silica abrasive particles" having certain properties, including "a chemical species incorporated in the colloidal silica abrasive particles internal to an outer surface thereof, wherein the chemical species is a nitrogen containing compound." On information and belief and as reflected in CMC's own documents, [REDACTED] [REDACTED] For example, [REDACTED] [REDACTED]

46. On information and belief, CMC's named inventors and prosecution counsel recognized the importance of the colloidal silica abrasive particle limitation to the patentability of the Asserted Claims. In fact, CMC's named inventors and prosecution counsel relied on the prior art's alleged failure to disclose a colloidal silica particle with internal nitrogen to overcome obviousness arguments asserted by the USPTO. For example, in response to a rejection from the USPTO Examiner over US Patent Application Publication No. 2015/0267081 ("Fu"), CMC's prosecution counsel argued on behalf of applicants that:

Fu does not teach amine compounds incorporated in the colloidal silica abrasive particles internal to an outer surface thereof, and does not exclude an aminosilane or phosphonium silane, as required by the pending claims.... [T]he combination of references fails to teach or suggest the chemical species is incorporated in the colloidal silica abrasive particles internal to an outer surface thereof, wherein the chemical species is a nitrogen containing compound or a phosphorus containing compound, and that the chemical species is not an aminosilane or a phosphonium silane.

47. Reflecting an intent to deceive with respect to the withheld and misrepresented information, the inclusion of a nitrogen containing compound other than an aminosilane or a phosphonium silane was specifically relied upon by CMC's named inventors and prosecution counsel during prosecution in their arguments for patentability. And the USPTO also relied on CMC's arguments in granting the Notice of Allowance. In the Notice of Allowance, the USPTO specifically found that "applicants' arguments on pages 10-14 of the reply filed on 5/18/2016 are persuasive because the applied art of record fails to disclose or render obvious a CMP compositions wherein: *'the chemical species is a nitrogen containing compound and is not an aminosilane or phosphonium silane.'*" CMC's named inventors and prosecution counsel represented to the USPTO that the colloidal silica particles claimed in its application were novel and nonobvious, and the USPTO relied on those representations in granting the '721 patent.

48. At least CMC's named inventors knew that [REDACTED]  
[REDACTED]  
[REDACTED] as claimed in the '721 patent, yet with an intent to deceive they withheld this material information that was inconsistent with the argument they and prosecution counsel advanced during patent prosecution about the prior art allegedly "fail[ing] to teach or suggest the chemical species is incorporated in the colloidal silica abrasive particles internal to an outer surface thereof, wherein the chemical species is a nitrogen containing compound or a phosphorus containing compound, and that the chemical species is not an aminosilane or a phosphonium silane." Thereby, CMC's named inventors and prosecution counsel also made material misrepresentations to the USPTO.

49. Fuso prior art particles, such as [REDACTED] BS-2H, BS-3, and HL-2 particles, based on their intended use, what was already within knowledge of a person of ordinary skill in the art

regarding, and/or in combination with prior art references regarding CMP slurries operating in the acidic pH range, would also have established a prima facie case of unpatentability, making the withheld information material to CMC's claims.

50. CMC's named inventors also withheld material information concerning prior art

[REDACTED]  
[REDACTED] Independent Claim 26 of the '721 patent requires, among other things, (1) "colloidal silica abrasive particles" having certain properties, including "a chemical species incorporated in the colloidal silica abrasive particles internal to an outer surface thereof," and "wherein the chemical species is a nitrogen containing compound," and (2) "wherein an aminosilane compound is bonded with the outer surface of the colloidal silica abrasive particles."

At least CMC's named inventors were aware, but withheld from the USPTO, that [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] As such, Fuso [REDACTED] and PL-3C particles, based on their intended use, what was already within knowledge of a person of ordinary skill in the art regarding, and/or in combination with prior art references about CMP slurries operating in an acidic pH range, would have established a prima facie case of unpatentability, making the withheld information material to patentability.

51. On information and belief and as reflected in CMC's own documents, including as reflected in [REDACTED]  
[REDACTED] at least CMC's named inventors misrepresented and actively concealed material information regarding [REDACTED] These

misrepresentations and active concealment reflect an intent to deceive during the prosecution of the '721 patent.

52. On information and belief, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]

53. As reflected in CMC's own documents, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED] This is reflected

in, for example, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]

54. On information and belief, including as reflected in their [REDACTED]

[REDACTED] in support of patentability, at least CMC's named inventors withheld this highly material information regarding [REDACTED] [REDACTED] from the USPTO with the intent to deceive the USPTO. On information and belief including as reflected in the prosecution history of the '721 patent, one of more claims of the '721 patent, including the Asserted Claims, would not have been granted in view of the concealed information regarding [REDACTED]. For example, CMC argued for patentability based upon properties of the claimed colloidal silica particles, and the claims would not have issued if the withheld prior art information had been disclosed to the USPTO.

55. On information and belief and as reflected in CMC's own documents, the CMC inventors and prosecution counsel also misrepresented and actively concealed material information, [REDACTED]

[REDACTED]

On information and belief and as reflected in CMC's own documents, CMC's named inventors and prosecution counsel withheld information concerning [REDACTED] with an intent to conceal their identity and to deceive the USPTO. This is reflected in, for example, CMC's selective disclosure and arguments during the prosecution of the '721 patent.

56. Reflecting an intent to deceive during the prosecution of the '721 patent, [REDACTED]

[REDACTED] the '721 patent has several examples that each selectively disclose the identity of other colloidal silica particles as comparative particles. On information and belief and as reflected in the prosecution of the '721 patent, CMC's named inventors and prosecution counsel selectively disclosed information concerning [REDACTED]

[REDACTED]

57. In at least two places, the specification of the '721 patent discloses Fuso particles by name. First, in Example 13, BS-1H particles are disclosed. Second, in Example 14, PL-2 and PL-3 particles are disclosed. Yet, on information and belief and as reflected in the patent, CMC's named inventors and prosecuting counsel withheld information concerning [REDACTED]

58. On information and belief, CMC's named inventors and prosecution counsel materially misrepresented and actively concealed [REDACTED] as demonstrated by at least the '721 patent Examples 2 and 10.

59. In Example 2, Control 1 and Control 3 are identified by their tradenames, "Semisperse® SS25" and "Nalco 1034A." '721 patent at 20:62-21:5. Both Controls 1 and 3 have reported internal nitrogen levels of <0.02. *Id.* at Table 2. The identity and source of Control 2—the only control to have a zeta potential of greater than 15 mV—was not included. *Id.* Instead, Control 2 is described only as "colloidal Stober silica." *Id.* at 20:65-67. In addition, unlike Controls 1 and 3, the '721 patent omits the nitrogen level of Control 2. *Id.* The '721 patent's provisional application, however, specifically notes that Control 2 had a measured internal nitrogen level of 0.4—higher than the nitrogen level reported for any of the allegedly inventive colloidal silica particles. *See* Provisional Application No. 62/017,100, ¶ [0059]. On information and belief and as reflected in CMC's own documents, [REDACTED]

[REDACTED] The conduct of CMC's named inventors and prosecution counsel in intentionally masking the identity of Control 2, deleting information about the internal nitrogen content of Control 2 in the later filed application, and not disclosing the [REDACTED] collectively and independently reflects a deliberate intent to deceive the USPTO.

60. On information and belief and as reflected in CMC's own documents, CMC's named inventors and prosecution counsel [REDACTED]

[REDACTED] This is reflected in, for example, [REDACTED]  
[REDACTED]

61. On information and belief, CMC's named inventors and prosecution counsel withheld this information from the USPTO during the prosecution of the '721 patent with the specific intent to deceive the USPTO and gain allowance of their application. Evidencing an intent to deceive during the prosecution of the '721 patent, at the same time as they filed the application for the '721 patent, named inventors S. Grumbine and J. Dysard and prosecution counsel Mr. Omholt also selectively disclosed Fuso's PL-3C particles in other related patent applications having narrower and more specific claims not anticipated or rendered obvious by CMP formulations of Fuso's PL-3C particles.

62. In Example 2 of the '721 patent, polishing compositions 2A and 2B are described as being inventive and containing colloidal silica particles with 3-ethyloxypropylamine (EOPA) internal to the outer surface of the particles. '721 patent at 20:29-40. The '721 patent explains that the "colloidal silica particles were grown using a Stober process in which the nitrogen-containing chemical compounds were employed as a tetramethyl orthosilicate (TMOS) hydrolysis catalyst. *Id.* at 20:41-44. The particles in compositions 2A and 2B are reported as having internal nitrogen contents of 0.19 and 0.21 mmol/g, respectively. *Id.* at Table 2. On information and belief and as reflected in CMC's own documents, CMC's named inventors and prosecution counsel withheld from the USPTO, with an intent to deceive, that [REDACTED]  
[REDACTED]  
[REDACTED], On  
information and belief and as reflected in CMC's own documents, [REDACTED]  
[REDACTED]

[REDACTED]

On information and belief and as reflected in CMC's own documents, [REDACTED]

[REDACTED]

[REDACTED] On information and belief and  
as reflected in the '721 patent, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] On information and belief, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] n information and belief and as reflected in CMC's  
own documents, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] from the USPTO with an intent to deceive.

63. For example, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

[REDACTED]. This is reflected in at least CMC's own documents, for example, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Inventors Grumbine, Cavanaugh, Dysard, and Shen [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

64. In addition to [REDACTED]

p [REDACTED]

[REDACTED]

[REDACTED] As reflected in CMC's [REDACTED]

[REDACTED] Moreover, on

information and belief, [REDACTED]

[REDACTED] This is reflected in, for example, a

[REDACTED]

65. For example, each of the named inventors knew that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

66. On information and belief, and reflecting an intent to deceive regarding withheld information concerning [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Fuso began providing to Counterclaim Plaintiffs BS-3 particles as a replacement for BS-2H particles.

67. On information and belief and as reflected in CMC's own documents, at least CMC's named inventors intentionally withheld from the USPTO material information concerning [REDACTED] even though, as reflected

in CMC's own documents, [REDACTED]

[REDACTED] Their intent to deceive is reflected in, for example, selective disclosure and arguments made during the prosecution of the '721 patent.

68. In Example 10 of the '721 patent, control colloidal silica particles "10B" were reported to have an aminosilane "bonded to the particle surface" and "a permanent positive charge of about 41 mV." '721 patent at 28:22-24, 50-53. Sample 10B is represented in the '721 patent as

only having an aminosilane bonded to the surface of the particle without an internal nitrogen species. *Id.* On information and belief, and as shown in CMC's documents, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Reflecting an intent to deceive, at least CMC's named inventors withheld this information from the USPTO, [REDACTED]

[REDACTED]

69. On information and belief, and as reflected in CMC's own documents, at least

[REDACTED]

[REDACTED] met claim limitations of the '721 patent and were material to the subject matter claimed in the '721 patent. On information and belief, [REDACTED]

[REDACTED]

[REDACTED]. For example, on information and belief, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. Further, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

70. On information and belief, at least CMC's named inventors further knew of, but intentionally concealed from the USPTO, [REDACTED]

[REDACTED] On information and belief, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] was material to the patentability of at least claim 26 of the '721 patent.

71. On information and belief, CMC's named inventors and prosecution counsel further misrepresented and actively concealed material information from the USPTO concerning [REDACTED]. An intent to deceive reflected in, for example, selective disclosure and arguments made during the prosecution of the '721 patent. [REDACTED]

[REDACTED] On information and belief, [REDACTED]  
[REDACTED] which described them as having an internal nitrogen species and a permanent positive charge of greater than 15 mV. *See* '721 patent at 28:16-21, Table 10. [REDACTED]

[REDACTED] On information and belief and as reflected in the prosecution of the '721 patent, CMC's named inventors and prosecution counsel withheld from the USPTO that [REDACTED] even

though, on information and belief, at least CMC's named inventors [REDACTED]

[REDACTED]

72. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] On information and belief, all of CMC's named inventors were also aware, [REDACTED]

[REDACTED]

Moreover, all of the CMC named inventors were aware, prior to and during prosecution leading to the '721 patent, [REDACTED]

[REDACTED]

[REDACTED]. This is reflected in, for example, [REDACTED]

[REDACTED] Despite [REDACTED]

[REDACTED]

at least CMC's named inventors sought to withhold [REDACTED]

[REDACTED] the USPTO and [REDACTED]  
[REDACTED]

73. [REDACTED] at least Fuso's PL-3C, [REDACTED] BS-2H, BS-3, HL-2, and [REDACTED] colloidal silica particles were prior art to and material to the claimed subject matter of the '721 patent. On information and belief, CMC's named inventors and prosecution counsel [REDACTED] and withheld that information with an intent to deceive. On information and belief, CMC's named inventors and prosecution counsel [REDACTED]  
[REDACTED]  
[REDACTED] Therefore, CMC's named inventors and prosecution counsel [REDACTED]  
[REDACTED]

74. On information and belief, the [REDACTED]  
[REDACTED] and the intent of CMC's named inventors and prosecution counsel to deceive is reflected in and reinforced by arguments made by CMC's prosecution counsel during prosecution that, had they disclosed the Fuso particles, they could not have argued to assert patentability. On information and belief, CMC's prosecution counsel would have been unable to distinguish PL-3C, [REDACTED] BS-2H, BS-3, HL-2, and [REDACTED] colloidal silica particles using the argument they advanced to get the USPTO to allow the Asserted Claims.

75. CMC's named inventors and prosecution counsel were aware that [REDACTED]  
[REDACTED]  
[REDACTED], as explained above. At least CMC's named inventors were aware that [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] And, on information and belief, at least CMC's named inventors were aware that [REDACTED]

[REDACTED] On information and belief, CMC's named inventors and prosecution counsel intentionally concealed this information from the USPTO resulting in issuance of the '721 patent.

76. On information and belief and as reflected in CMC's own documents, CMC's named inventors and prosecution counsel were also aware that [REDACTED]

[REDACTED] On information and belief and as reflected in CMC's own documents, CMC's named inventors and prosecution counsel were also aware that, *inter alia*, [REDACTED]

[REDACTED]

[REDACTED] On information and belief and as reflected in CMC's documents, CMC's named inventors and prosecution counsel were aware that [REDACTED]

[REDACTED]

77. The colloidal silica particles and their preparation methods are material to the Asserted Patent's claims. The '721 patent stresses the importance of the colloidal silica particles (*see, e.g.*, '721 patent at 2:15-26) and CMC's prosecution counsel relied on the properties of the colloidal silica particles to distinguish the claimed subject matter during prosecution. On information and belief, CMC's named inventors were aware of the criticality of the colloidal silica particles to the alleged invention and [REDACTED]

[REDACTED] The claims are specifically

directed to the colloidal silica particles as the sole point of novelty. For example, the only limitations added in claims 10, 11, 13, 14, 35, and 36 are directed to the chemical species incorporated in the colloidal silica particles. The [REDACTED]

[REDACTED] were therefore material to the claimed subject matter.

78. As reflected in CMC's own documents, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. On information and belief, [REDACTED]

[REDACTED]

[REDACTED] On information and belief, [REDACTED]

[REDACTED] On

information and belief and as reflected in CMC's own documents and a Japanese patent application filed by Fuso, [REDACTED]

[REDACTED]

[REDACTED].

79. As reflected in CMC's own documents and a Japanese patent application filed by Fuso, at least CMC's named inventors were aware that [REDACTED]

[REDACTED]

[REDACTED]. On information and belief, and as reflected in CMC's documents,

[REDACTED]

[REDACTED]

80. On information and belief, at the time of filing the application leading to the Asserted Patent, CMC's named inventors [REDACTED]



[REDACTED]

[REDACTED] CMC's named inventors presented claims during patent prosecution specifically directed to the chemical species incorporated in the claimed colloidal silica abrasive particles, such as "[t]he composition of claim 1, wherein the chemical species is not ammonium" (issued claim 10) and "[t]he composition of claim [1 or 35] wherein the chemical species comprises ethyloxypropylamine, tetramethyl ammonium hydroxide, or ethylenediamine" (issued claims 14 and 36). [REDACTED] CMC's named inventors and prosecution counsel falsely presented and obtained patent claims as the sole inventors of subject matter [REDACTED].

81. On information and belief and as reflected in CMC's own documents, at the time of filing the application leading to the Asserted Patent and during the prosecution thereof, at least CMC's named inventors were aware that [REDACTED]

[REDACTED]

[REDACTED] On information and belief, [REDACTED]

[REDACTED] On information and belief and as reflected in CMC's documents and a Japanese patent application filed by Fuso, in [REDACTED] e

82. The [REDACTED]

[REDACTED] are reflected in its Japanese patent application, JP 2016-008157, filed on June 25, 2014, which is the same day CMC filed the provisional application to which the Asserted Patent claims priority. Fuso's Japanese patent application is generally directed towards a method of forming colloidal silica particles with an internal chemical species. Working Example 1 of Fuso's Japanese

patent application is substantively similar to Example 13 of the Asserted Patent—one of the only examples in the Asserted Patent purportedly showing how to manufacture the colloidal silica particles. Both Fuso Working Example 1 and CMC Example 13 begin with Fuso BS-1H particles, use the same reagents and reaction conditions, and result in colloidal silica core-shell particles containing internal EOPA and having bonded external aminosilane. On information and belief, two of the inventors listed on Fuso’s Japanese patent application, Yoshiki Mishikawa and Takuto Yamawaki, were also two of the Fuso employees [REDACTED]

On information and belief, reflecting an intent to deceive, [REDACTED]

[REDACTED] CMC’s named inventors and prosecution counsel thus materially misrepresented to the USPTO their contributions to the subject matter claimed in the ’721 patent.

83. On information and belief, CMC’s named inventors and prosecution counsel submitted declarations falsely attesting that CMC employees were the sole inventors of the claimed subject matter despite knowing that [REDACTED]

[REDACTED] On information and belief, CMC’s named inventors and prosecution counsel intentionally misrepresented to the USPTO that Fuso employees were not inventors of the claimed colloidal silica particles in the ’721 patent.

84. If CMC had disclosed the [REDACTED]  
[REDACTED] would have had and been aware of their duty under 37 CFR 1.56 “to disclose to the Office all information known to that individual to be material to patentability as defined in this section.” [REDACTED]

[REDACTED] would have thus been obligated to disclose, *inter alia*, [REDACTED]  
[REDACTED]  
[REDACTED] as above, this information would have been material to and prevented allowance of claims of the '721 patent. By withholding the [REDACTED]  
[REDACTED] CMC further benefited by withholding from competitors that [REDACTED]  
[REDACTED]. Further, any patent issuing from the USPTO, to the extent one issued at all, would have been jointly held by CMC and [REDACTED] at least until a legally effective assignment thereof had been made to one or another party. [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] For this and other reasons, CMC benefitted through its wrongful identification of inventorship by being able to assert the '721 patent against its direct competitors, such as Counterclaim Plaintiffs.

85. On June 1, 2020, CMC filed the present lawsuit against Defendants asserting infringement of the '721 patent. *See* D.I. 1. At the same time, CMC filed an ITC action against Defendants also asserting the '721 patent. During the ITC investigation, evidence was produced further detailing CMC's named inventors' and prosecution counsel's misrepresentation and active concealments to the USPTO, as detailed above. Following the close of the ITC investigation and upon lifting of the stay in this case, Defendants filed a motion to dismiss and CMC re-asserted the '721 patent that it knew was obtained from the USPTO through fraud. *See* D.I. 23. CMC is not, and was not, entitled to enforce the patent in the ITC and/or this Court in view of the improper inventorship.

### CMC's Accusations and False Representations

86. CMC brought suit against Counterclaim Plaintiffs both in Delaware and at the ITC alleging that Counterclaim Plaintiffs' manufacture, use, sale, offer for sale, or importation of several of Counterclaim Plaintiffs' products, including at least the Optiplane 1000 and 2000 series and product models 1600, 1601, 2118, 2300, and 2600 (collectively, the "Accused Products"), which used the BS-3 particle, induced infringement of the '721 patent. D.I. 1; ITC Action, Complaint (June 1, 2020). Specifically, CMC alleged that Counterclaim Plaintiffs import into the United States colloidal silica particles, including at least "colloidal-silica BS-3," from Japan to "make and sell infringing slurry products, including the Optiplane series CMP slurry products, which are then marketed to customers in the United States." ITC Action, Complaint at ¶ 7.3.

87. On information and belief, CMC brought this lawsuit, along with the ITC action, against Counterclaim Plaintiffs in an effort to stifle fair competition from products competing with CMC's own CMP products.

88. On information and belief, CMC filed its patent infringement actions against Counterclaim Plaintiffs in bad faith, interfering with Counterclaim Plaintiffs' presence in the relevant market, and imposing or attempting to impose an illegal and unlawful anticompetitive and monopolistic burden on Counterclaim Plaintiffs and others in the market.

89. On information and belief, CMC used its [REDACTED] to interfere with [REDACTED] including through [REDACTED]

90. Additionally, several weeks prior to filing its lawsuits, CMC notified dozens of current and potential customers of Counterclaim Plaintiffs of its infringement allegations, at least damaging Counterclaim Plaintiffs' business reputation and/or costing them business. [REDACTED]



[REDACTED]

#### **CMC's Sham Enforcement in the ITC**

91. The ITC decision is non-binding, was based on an incomplete record, and was premised on fraudulent misrepresentations by CMC. CMC also asserted, but dropped and did not prevail on, claim 5 with respect to infringement of the Asserted Patent.

92. The ITC's findings neither purport to be, nor can they be, regarded as binding interpretations of the U.S. patent laws in the present particular factual context.

93. The factual record before the ITC was incomplete. Discovery was limited to a small number of CMC custodians, CMC actively objected to producing material information, and discovery from Fuso was not obtained due to the compressed ITC schedule and the on-going COVID-19 pandemic. The Administrative Law Judge (“ALJ”) also did not allow Respondents (aka Defendants) to plead inequitable conduct based on CMC’s named inventors’ submission of false affidavits misrepresenting the inventorship of the ’721 patent, which were part of CMC’s affirmative acts of egregious misconduct. The ALJ further denied leave for Respondents to assert certain prior art that became relevant in light of CMC’s claim constructions that the ALJ ultimately largely adopted.

94. On information and belief, CMC committed fraud on the ITC by making fraudulent misrepresentations, including with respect to the prior art status of Fuso particles relevant to the ’721 patent that Fuso BS-3 particles were specially made or adapted for use in an infringement of the ’721 patent, are not staple articles of commerce suitable for substantial non-infringing use, and that Defendants were involved in the design, research and development, or manufacture thereof.

95. For example, CMC represented that Fuso’s colloidal silica abrasive particles, including [REDACTED], BS-2H, PL-3C, [REDACTED] and HL-2 particles, were all experimental, not ready for patenting, and had been [REDACTED]

[REDACTED] In addition to having no basis to represent that the particles were experimental, not ready for patenting, and had been [REDACTED]

[REDACTED]

[REDACTED] Furthermore, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

96. CMC's false representations about Fuso's colloidal silica abrasive particles, including [REDACTED] BS-2H, PL-3C, [REDACTED] and HL-2 particles, all being experimental, not ready for patenting, and [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[REDACTED]

97. As a further example, contrary to CMC's assertions in the ITC that BS-3 particles were specially made or adapted for use in an infringement of the '721 patent and were not staple articles of commerce suitable for substantial non-infringing use, and Defendants were involved in the design, research and development, or manufacture thereof, CMC documents further show that

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

#### **CMC's Active Concealment**

98. CMC has concealed and continues to conceal its unlawful, anti-competitive, and unfair acts, manipulations and restrictions in the relevant product market. CMC's success in concealing its misconduct was facilitated by [REDACTED]. Thus, any statute of limitations relating to the claims for relief alleged herein had been tolled due to CMC's affirmative acts of concealment and the inherently self-concealing nature of CMC's private, unregulated conduct.

99. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

100. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

101. CMC took active measures, and continues to take active measures, to conceal its misconduct from public view, including concealing the [REDACTED]

[REDACTED]

[REDACTED]

102. For example, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

103. In the ITC Action, CMC marked the entirety of [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] as “CONFIDENTIAL  
BUSINESS INFORMATION” (“CBI”).

104. These CBI designations, made subsequent to June 2020, indicate CMC’s representation that the information “has not been made public” as of June 2020, which is a requirement for use of the CBI designation in the ITC Action based on the ITC’s protective order.

105. These CBI designations by CMC continue to prevent disclosure of the information to Counterclaim Plaintiffs, other than their outside counsel.

106. Counterclaim Plaintiffs did not know of CMC’s unlawful and self-concealing acts and could not have discovered such acts through the exercise of reasonable diligence. Only its outside counsel became aware through discovery during the ITC Action in late 2020. Indeed, the  
[REDACTED]  
[REDACTED]  
[REDACTED]—kept Counterclaim Plaintiffs and its outside counsel unaware of the relevant conduct for years until discovery in the ITC Action had commenced.

107. Following the discovery of [REDACTED]  
Counterclaim Plaintiffs, through counsel, sought further relevant discovery, including from Fuso, in the ITC Action. Having been unable to timely obtain such discovery in the ITC Action, Counterclaim Plaintiffs, through counsel, continue to seek to obtain relevant discovery in this action, including discovery from Fuso that CMC has sought to prevent and actively opposes.

108. Reasonable diligence without the benefit of discovery could not have uncovered CMC's unlawful acts at an earlier time. For example, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED] (iii) the relevant evidence was designated by CMC as CBI in the ITC Action; (iv) additional relevant evidence remains confidential to Fuso because the accelerated timeline of the ITC Action and delays due to COVID-19 prevented foreign discovery; and (v) CMC did not disclose to Counterclaim Plaintiffs that CMC was [REDACTED]

109. As a direct consequence of its actions, [REDACTED]  
[REDACTED]  
[REDACTED] then asserted contributory infringement against Counterclaim Plaintiffs. CMC did so knowing that [REDACTED]

[REDACTED]  
[REDACTED] Such actions constitute a continuing wrong and, indeed, each instance of sham litigation, including CMC's First Amended Complaint (D.I. 23) in this Action, is a new and independent injurious act against Counterclaim Plaintiffs.

110. As a result of CMC's affirmative steps to conceal its improper conduct, its deliberate decision to [REDACTED] the self-concealing nature of

its actions, its additional efforts to impede discovery of relevant evidence, including from Fuso, and the resulting lack of information about material aspects of its manipulation and restriction of the relevant market, the statute of limitations is tolled for Counterclaim Plaintiffs' claims.

### **The Relevant Market and Antitrust Effects**

111. On information and belief, CMC has knowingly harmed competition in the relevant product market through antitrust violations by preventing its competitors from accessing ultra-pure colloidal silica particles from what [REDACTED] and by enforcing the fraudulently obtained '721 patent in bad faith against Counterclaim Plaintiffs in multiple venues.

112. Plaintiff and Counterclaim Defendant CMC makes and sells CMP slurry products, its D922x products, in the relevant market used in semiconductor manufacturing to the semiconductor industry. D.I. 1 at ¶ 2; D.I. 23 at ¶ 2.

113. As participants in the relevant market via the Accused Products, Counterclaim Plaintiffs are directly affected by CMC's violations and have been injured by these acts. CMC's anticompetitive conduct has resulted in injury to both competition and consumers.

114. The relevant product market at issue in this case is high-performance dielectric CMP slurry components and compositions for polishing silicon oxygen containing materials, such as tetraethyl orthosilicate (TEOS) films, during semiconductor manufacturing. The dielectric CMP slurry products are critical to the manufacture of semiconductors. Modern semiconductor manufacturing processes could not be carried out without these CMP slurries, which enable the efficient production of complex, high-performance devices.

115. The relevant geographic market is the United States. CMC sells and has sold its CMP slurry products in the relevant geographic market. D.I. 23 at ¶ 2.

116. There are significant barriers to entry into the market for dielectric CMP slurry compositions for polishing silicon oxygen containing materials that would allow CMC to achieve market power. Such barriers include CMC's bad faith enforcement of the fraudulently obtained claims of the '721 patent and its [REDACTED] [REDACTED] limiting design options for dielectric CMP slurry compositions for polishing silicon oxygen containing materials that do not infringe the '721 patent under CMC's asserted scope of the '721 patent's claims.

117. On information and belief and as reflected in [REDACTED] [REDACTED] [REDACTED]

118. On information and belief, CMC has either already eliminated or is currently attempting to eliminate competition in the market for high-performance dielectric CMP slurry components and compositions for polishing silicon oxygen containing materials for use in semiconductor manufacturing through [REDACTED] [REDACTED]

119. On information and belief, CMC has either already eliminated or is currently attempting to eliminate competitors through bad faith lawsuits asserting the '721 patent and by asserting a scope of patent claim coverage that has resulted and will continue to result in driving competitors out of the market.

120. On information and belief, CMC has demonstrated this pattern of elimination through its ITC action where it obtained a cease-and-desist and limited exclusion order by committing fraud on the ITC. *See* D.I. 23 Exhibit C, Public Comm'n Op. (Jan. 6, 2022) (granting cease-and-desist and limited exclusion orders). CMC's fraud before the ITC, as set forth above,

including as reflected in ¶¶ 91-97 above, renders its enforcement a sham and deprives the ITC proceeding of legitimacy.

121. This current lawsuit is part of this same effort and is designed to eliminate Counterclaim Plaintiffs as competitors, to use the '721 patent as a barrier to competition, and to monopolize the market for CMP slurry products.

122. CMC's unlawful conduct, as set forth above, has harmed competition in the market for dielectric CMP slurry compositions for polishing silicon oxygen containing materials by, *inter alia*, CMC's bad faith prior and current sham assertions of the '721 patent. *See* D.I. 23 Exhibit C, Public Comm'n Op. (Jan. 6, 2022) (granting cease-and-desist and limited exclusion orders).

123. CMC's unlawful conduct, as set forth above, including its [REDACTED] [REDACTED] has harmed competition in the market for dielectric CMP slurry compositions for polishing silicon oxygen containing materials by, *inter alia*, foreclosing competition in the market for dielectric CMP slurry compositions for polishing silicon oxygen containing materials, reducing options for customers, undercutting customer investments in slurry system qualification, compelling customers to pay increased prices, and making customers change their semiconductor manufacturing processes to accommodate the reduced options.

124. Upon information and belief, CMC's unlawful conduct has harmed competition in the market for dielectric CMP slurry compositions for polishing silicon oxygen containing materials by interfering with customer capital investments and allocation decisions for next generation semiconductor manufacturing technology.

125. CMC's unlawful conduct has caused Counterclaim Plaintiffs to suffer injury by impeding and/or slowing, and/or attempting to impede or slow, Counterclaim Plaintiffs'



participation in the same market, thereby causing it lost sales and profits, and by forcing it to incur significant costs to defend CMC's meritless lawsuit.

126. Counterclaim Plaintiffs have been directly harmed by CMC's misconduct in violation of the antitrust laws.

**FIRST COUNTERCLAIM**  
**Declaratory Judgment of Non-Infringement of U.S. Patent No. 9,499,721**

127. Counterclaim Plaintiffs restate and reallege each of the foregoing paragraphs as if fully set forth herein.

128. Counterclaim Plaintiffs have not infringed and will not infringe, directly or indirectly, literally or under the doctrine of equivalents, any valid and enforceable claim of the '721 patent under 35 U.S.C. § 271. By way of example only, the Accused Products do not meet at least the following limitation: "colloidal silica abrasive particles" with a "chemical species incorporated in the colloidal silica abrasive particles internal to an outer surface thereof" having a "permanent positive charge."

129. In addition, Counterclaim Plaintiffs cannot be liable for any infringement of the '721 patent because it is invalid and unenforceable.

130. On June 1, 2020, CMC filed suit for infringement of the '721 patent against Counterclaim Plaintiffs in this Court. (D.I. 1.)

131. On June 1, 2022, CMC filed a First Amended Complaint re-alleging infringement of the '721 patent by Counterclaim Plaintiffs. (D.I. 23.)

132. As a result of CMC's allegations against Counterclaim Plaintiffs, an actual and justiciable controversy exists between Counterclaim Plaintiffs and CMC at least as to the infringement of the '721 patent.

133. Counterclaim Plaintiffs are entitled to a judicial declaration that the making, use, offer for sale, sale, or importation into the United States of the Accused Products does not and will not infringe any valid and enforceable claim of the '721 patent under 35 U.S.C. § 271. Such a declaration is necessary and appropriate at this time to determine the rights and obligations of the parties.

**SECOND COUNTERCLAIM**  
**Declaratory Judgment of Invalidity of U.S. Patent No. 9,499,721**

134. Counterclaim Plaintiffs restate and reallege each of the foregoing paragraphs as if fully set forth herein, including specifically paragraphs 40-85.

135. The claims of the '721 patent are invalid for failing to meet the requirements of Title 35 of the United States Code, including without limitation, one or more of §§ 101, 102, 103, 112 and/or pursuant to common law and/or equitable doctrines.

136. The asserted claims are invalid under § 101 including for improper inventorship. *See also infra*, Counterclaim III.

137. The asserted claims are invalid under §§ 102 and 103 in view of at least the prior art identified on the face of the '721 patent, the use and/or prior sale of products, including non-experimental use by CMC customers, that practice the claims of the '721 patent prior to the effective filing date of the '721 patent, and/or prior art Fuso particles, including [REDACTED] particles. *See also infra*, Counterclaim III.

138. The identification of the prior art on the face of the '721 patent is exemplary only and should not be construed as limiting in any way the defenses that Counterclaim Plaintiffs will present in this action.

139. The asserted claims are invalid under § 112 including because their full scope is not adequately enabled by or described by the '721 patent's disclosure, including with respect to

the open-ended limitations “a chemical species incorporated in the colloidal silica abrasive particles internal to an outer surface thereof, wherein the chemical species is a nitrogen containing compound or a phosphorus containing compound” and “the colloidal silica abrasive particles have a permanent positive charge of at least 15 mV” or “13 mV.” In addition, the asserted claims are invalid under § 112 because at least the claim limitation “permanent positive charge” is indefinite.

140. On June 1, 2020, CMC filed suit for infringement of the ’721 patent against Counterclaim Plaintiffs in this Court. (D.I. 1.)

141. On June 1, 2022, CMC filed a First Amended Complaint re-alleging infringement of the ’721 patent by Counterclaim Plaintiffs. (D.I. 23.)

142. As a result of CMC’s allegations against Counterclaim Plaintiffs, an actual and justiciable controversy exists between Counterclaim Plaintiffs and CMC as to whether the claims of the ’721 patent are invalid for failure to comply with the requirements of Title 35 of the United States Code, including without limitation, one or more of §§ 101, 102, 103, 112 and/or pursuant to common law and/or equitable doctrines.

143. Counterclaim Plaintiffs are entitled to a judicial declaration that the claims of the ’721 patent are invalid. Such a declaration is necessary and appropriate at this time to determine the rights and obligations of the parties.

**THIRD COUNTERCLAIM**  
**Declaratory Judgment of Unenforceability of the ’721 Patent**

144. Counterclaim Plaintiffs restate and reallege each of the foregoing paragraphs, including those in the prior counterclaim for a Declaratory Judgment of Invalidity of U.S. Patent No. 9,499,721, as if fully set forth herein.

145. On information and belief, including as set forth in above paragraphs 40-85, CMC’s named inventors (Steven Grumbine, Jeffrey Dysard, Ernest Shen, and Mary Cavanaugh) and

prosecution counsel (Thomas Omholt and Christopher Streinz) were aware of highly material information during the prosecution of the '721 patent but withheld it from the USPTO with an intent to deceive and further misrepresented the status of the prior art to the USPTO. On information and belief, CMC's named inventors and prosecution counsel were aware that [REDACTED] [REDACTED] materially contributed to the claimed subject matter but withheld this information from the USPTO and misrepresented the contributions of CMC's named inventors with an intent to deceive. But for the withheld and misrepresented information, the '721 patent would not have issued. The pattern of deception constitutes inequitable conduct, including based on affirmative egregious misconduct, and renders the '721 patent unenforceable.

146. On information and belief and as reflected in CMC documents, including as set forth in above paragraphs 40-85, CMC's named inventors and prosecution counsel deceived and intended to deceive the USPTO by actively concealing [REDACTED] [REDACTED] that were material to the claimed subject matter of the '721 patent and that had been used, sold, and/or provided by Fuso prior to the filing date of the application for the '721 patent as well as contributions of [REDACTED] to the subject matter claimed in the '721 patent. On information and belief and as reflected in CMC documents, including as set forth in above paragraphs 40-85, CMC's named inventors and prosecution counsel withheld information concerning these material [REDACTED] with an intent to deceive as part of a pattern of affirmative egregious misconduct. But for the withheld and misrepresented information, the '721 patent would not have issued.

147. On information and belief, including as set forth in above paragraphs 40-85, CMC's named inventors and prosecution counsel actively and intentionally concealed from the USPTO [REDACTED] colloidal silica particles sold by Fuso, including PL-3C, [REDACTED], BS-2H, BS-3,

and/or [REDACTED] particles, that were material to the claimed subject matter of the '721 patent and [REDACTED] ultimately issued. But for the withheld information, the '721 patent would not have issued.

148. On information and belief, including as set forth in above paragraphs 40-85, at least CMC's named inventors also actively and intentionally concealed their knowledge from the USPTO of the [REDACTED]. This intentionally withheld information was material to the claimed subject matter of the '721 patent. But for the withheld information, the '721 patent would not have issued.

149. On information and belief, including as set forth in above paragraphs 40-85, CMC's named inventors and prosecution counsel knew that [REDACTED] were material to the claimed subject matter of at least claim 1, which requires as components only: (1) an acidic "water based liquid carrier" at a pH of about 3.5 to about 6 and (2) "colloidal silica abrasive particles" having properties, such as "a chemical species incorporated in the colloidal silica abrasive particles internal to an outer surface thereof, wherein the chemical species is a nitrogen containing compound or a phosphorus

containing compound,” [REDACTED]  
[REDACTED]

150. On information and belief, including as set forth in above paragraphs 40-85, CMC’s named inventors and prosecution counsel knew that [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] were material to the claimed subject matter of at least dependent claims 14 and 36, which require that “the chemical species [incorporated in the colloidal silica abrasive particles] comprises ethyloxypropylamine, tetramethylammonium hydroxide, or ethylenediamine.”

151. On information and belief, including as set forth in above paragraphs 40-85, CMC’s named inventors and prosecution counsel knew that [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED] were prior art developed by and available from Fuso prior to the filing date of the application for the ’721 patent.

152. On information and belief, including as set forth in above paragraphs 40-85, CMC’s named inventors and prosecution counsel also understood that [REDACTED]  
[REDACTED]

[REDACTED] On information and belief, [REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]

[REDACTED]

153. On information and belief, including as set forth in above paragraphs 40-85, at least CMC's named inventors also understood [REDACTED]

[REDACTED]

[REDACTED]

154. On information and belief, including as set forth in above paragraphs 40-85, CMC's named inventors and prosecution counsel actively and intentionally concealed [REDACTED]

[REDACTED]

[REDACTED] from the PTO with an intent to deceive and as part of a pattern of affirmative egregious misconduct.

155. The intent to deceive and pattern of affirmative egregious misconduct are reflected in the prosecution history where CMC's prosecution counsel, on behalf of CMC's named inventors, specifically differentiated its claimed inventions over the prior art, including the Fu reference, by arguing to the USPTO that the prior art did not disclose colloidal silica particles with an internal nitrogen or phosphorus species. The USPTO then relied on CMC's arguments in issuing the Notice of Allowance for the '721 patent. On information and belief, the USPTO would not have issued a Notice of Allowance for the '721 patent had CMC's named inventors and prosecution counsel not actively concealed [REDACTED]

[REDACTED] from the USPTO.

156. The intent to deceive the USPTO and pattern of affirmative egregious misconduct are reflected in the selective disclosures by CMC's named inventors and prosecution counsel of other less material particles while withholding information, including the prior art status, of [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

157. On information and belief, including as set forth in above paragraphs 40-85, CMC's named inventors and prosecution counsel knew that [REDACTED]

[REDACTED]

[REDACTED]. On information and belief, [REDACTED]

[REDACTED]. On information and belief, at least CMC's named inventors were aware that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

158. On information and belief, including as set forth in above paragraphs 40-85, CMC's named inventors and prosecution counsel further submitted declarations falsely attesting that the CMC employees were the sole inventors of the claimed subject matter, knowing that, in fact, the



159. The intent to deceive and pattern of affirmative egregious misconduct are reflected by CMC's named inventors and prosecution counsel intentional withholding of [REDACTED] [REDACTED] on the subject matter claimed in the '721 patent. In view of the circumstances, the single most reasonable inference that can be drawn is that these material omissions and misrepresentations were made with the intent to mislead the USPTO.

160. On information and belief, including as set forth in above paragraphs 40-85, CMC's named inventors and prosecution counsel understood that [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

161. The foregoing demonstrates that but-for material information was withheld from and misrepresented to the USPTO, and the single most reasonable inference is deceptive intent. The facts also demonstrate affirmative egregious misconduct.

162. The ITC did not address all the aforementioned bases for inequitable conduct and its findings neither purport to be, nor can they be, regarded as binding interpretations of the U.S. patent laws.

163. An actual controversy exists with respect to the alleged infringement of the '721 patent.

164. A judicial determination of the respective rights of the parties with respect to the infringement of the claims of the '721 patent is now necessary and appropriate under 28 U.S.C. § 2201.

**FOURTH COUNTERCLAIM**  
**Unreasonable Restraint of Trade in Violation of the Sherman Act, 15 U.S.C. § 1**

165. Counterclaim Plaintiffs restate and reallege each of the foregoing paragraphs, including the prior counterclaim for Unenforceability Due to Inequitable Conduct, as if fully set forth herein.

166. CMC has violated Section 1 of the Sherman Act, 15 U.S.C. § 1 by unreasonably restraining trade through, individually and collectively, its anticompetitive [REDACTED] and bad faith enforcement of the fraudulently obtained '721 patent through sham litigation, including as set forth in above paragraphs 14-39 and 86-126. As set forth above, including in ¶¶ 98-110, any statute of limitations relating to the claims for relief alleged herein has been and is tolled due to CMC's affirmative acts of concealment and the inherently self-concealing nature of CMC's private, unregulated conduct.

167. As fully described above, including as set forth in above paragraphs 14-39 and 86-126, [REDACTED] in the relevant antitrust market defined above. [REDACTED] in the relevant antitrust market and prevent competition is reflected in, for example, [REDACTED] as discussed in ¶¶ 14-39 above.

168. On information and belief and as reflected in CMC documents, [REDACTED] including competition from Counterclaim Plaintiffs. CMC's intent in this regard is reflected in, for example, [REDACTED], as discussed in ¶¶ 14-39 above.

169. As fully described above, including as set forth in above paragraphs 14-39 and 86-126, CMC has enforced and continues to enforce the '721 patent against Counterclaim Plaintiffs in bad faith via sham litigation. CMC could not realistically expect to succeed on the merits before the ITC, and cannot realistically expect to succeed on the merits in this action, in the absence of its material misrepresentations and inequitable conduct. As also set forth above, including in ¶¶ 91-97, the ITC action was decided on an incomplete record and premised on material misrepresentations by CMC that deprived the litigation of its legitimacy and threatened the fair and impartial functionality of the ITC; it is not binding in this action and does not insulate CMC from its anticompetitive conduct. There is no first amendment protection for furnishing an adjudicatory body with false information with predatory intent, as CMC has done.

170. On information and belief, including as set forth in above paragraphs 14-39 and 86-126, CMC has enforced and continues to enforce the '721 patent in bad faith via sham litigation with the intent to illegally restrain trade and prevent competition, including competition from Counterclaim Plaintiffs. CMC's intent to unlawfully prevent competition is reflected in, for example, [REDACTED] as discussed in ¶¶ 14-39 above.

171. As fully described above, including as set forth in above paragraphs 14-39 and 86-126, CMC competes against Counterclaim Plaintiffs in the relevant antitrust market defined above.

172. Considered individually and collectively, the [REDACTED] [REDACTED] described in these Counterclaims and the bad faith and sham litigation enforcement of the '721 patent have had a direct, substantial adverse effect on competition in the relevant antitrust market defined above, including (i) foreclosing competition from the use of certain Fusio particles in competitive CMP slurries, as fully described above; (ii) reducing customer choice within the

relevant antitrust market, including with respect to Counterclaim Plaintiffs' CMP slurries; (iii) foreclosing innovation in the relevant antitrust market, including with respect to Counterclaim Plaintiffs' CMP slurries; and (iv) reducing consumer welfare through the above adverse effects, including with respect to their effect on semiconductor manufacturers and the supply chain for semiconductor chips.

173. For example, CMC's unlawful [REDACTED] have harmed competition in the market for dielectric CMP slurry compositions for polishing silicon oxygen containing materials by, *inter alia*, foreclosing competition in the market for dielectric CMP slurry compositions for polishing silicon oxygen containing materials, undercutting customer investments in slurry system qualification, compelling customers to pay increased prices, and making customers change their semiconductor manufacturing process to accommodate the reduced options.

174. On information and belief, including as set forth in above paragraphs 14-39 and 86-126, CMC has no bona fide pro-competitive justifications for its anticompetitive [REDACTED] and bad faith enforcement of the fraudulently obtained '721 patent through sham litigation, and any purported business justifications are decidedly outweighed by their adverse effect on competition in the relevant markets.

175. [REDACTED] and bad faith enforcement, individually and collectively, have reduced Counterclaim Plaintiffs' market share of CMP slurries in the relevant market to a level significantly lower than it would have been absent CMC's anticompetitive actions. These anticompetitive [REDACTED] and associated bad faith, sham enforcement of the '721 patent, individually and collectively, have foreclosed Counterclaim Plaintiffs from a substantial share of the relevant product market.

176. These anticompetitive [REDACTED] and bad faith, sham enforcement, individually and collectively, have been successful for CMC, who has and will continue to have market power and expanded market power in the relevant market, the ability to exclude competition and control prices, unchecked by the ability of customers to look elsewhere for the same or superior products, at lower prices and/or for superior performance.

177. These [REDACTED] and bad faith, sham enforcement, individually and collectively, involve a substantial level of interstate commerce.

178. These [REDACTED] and bad faith, sham enforcement, individually and collectively, violate Section 1 of the Sherman Act, 15 U.S.C. § 1.

179. As a direct, foreseeable, and proximate result of CMC's exclusionary, anticompetitive conduct, Counterclaim Plaintiffs have been damaged by loss of past and future sales and profits and restraints from developing and offering new products, all in amounts to be proven at trial. CMC's wrongful actions are tortious, are in violation of law and have caused substantial damages to Counterclaim Plaintiffs in an amount subject to proof at trial. Counterclaim Plaintiffs are entitled to injunctive relief, damages, treble damages, and attorneys' fees under 15 U.S.C. § 15.

#### **FIFTH COUNTERCLAIM**

##### **Walker Process Fraud, Bad Faith Prosecution of Patent Infringement Suits, and Attempted Monopolization in Violation of the Sherman Act, 15 U.S.C. § 2**

180. Counterclaim Plaintiffs restate and reallege each of the foregoing paragraphs, including those in the prior counterclaims for Declaratory Judgment of Invalidity of the '721 Patent, Declaratory Judgment of Unenforceability of the '721 Patent, and Unreasonable Restraint of Trade in Violation of Section 1 of the Sherman Act as if fully set forth herein.

181. CMC has violated Section 2 of the Sherman Act, 15 U.S.C. § 2, by committing *Walker Process* fraud and prosecuting multiple patent infringement suits in bad faith as sham

litigation in an attempt to monopolize the relevant market, including as set forth in above paragraphs 40-126.

182. As set forth above, including in paragraphs 40-85, and discussed below, the '721 patent was procured by knowing and willful fraud on the USPTO including with respect to withheld information relating to prior art Fuso particles.

183. As set forth above, including in paragraphs 86-110, and discussed below, CMC was aware of the fraud when enforcing the patent both in the ITC and in this Court including based on

[REDACTED]

[REDACTED]

184. As set forth above, including in paragraphs 40-85, and discussed below, there is independent evidence of a clear intent to deceive the patent examiner including based on the

[REDACTED]

185. As set forth above, including in paragraphs 40-85, and discussed below, the '721 patent would not have issued but for the misrepresentation or omission including because the withheld information was inconsistent with arguments made by CMC and relied upon by the USPTO that led to allowance.

186. As set forth above, including in paragraphs 86-126, and discussed below, CMC's enforcement of the '721 patent is part of a pattern of and has the effect of antitrust violations in the relevant market.

187. On information and belief, including as set forth in above paragraphs 40-126, CMC asserted the '721 patent via sham litigation at the ITC and this Court knowing that it was a fraudulently procured patent in an effort to monopolize a market, thus committing *Walker Process*

fraud. CMC's intent to unlawfully prevent competition is reflected in, for example, [REDACTED] as further discussed above in, for example, ¶¶ 91-97.

188. On information and belief, CMC filed its patent infringement actions against Counterclaim Plaintiffs in bad faith, frustrating Counterclaim Plaintiffs' presence in the relevant market, and imposing or attempting to impose an illegal and unlawful anticompetitive and monopolistic burden on Counterclaim Plaintiffs and others in the market.

189. On June 1, 2020, CMC filed its Complaint (D.I. 1) against Counterclaim Plaintiffs for patent infringement. In its Complaint, CMC accused Counterclaim Plaintiffs of infringing the '721 patent, allegedly arising due to the manufacture, use, sale, offer for sale, or importation of the Accused Products. (D.I. 1 at ¶ 5.)

190. Also on June 1, 2020, CMC filed a Complaint against Counterclaim Plaintiffs under Section 337 at the ITC. *See* ITC Action, Complaint (June 1, 2020). This Complaint included the same allegations based on importation, sale for importation, and/or sale after importation into the United States of the Accused Products and/or components thereof. *Id.* at ¶ 7.1. As set forth above, including in ¶¶ 91-97, the ITC action was decided on an incomplete record and premised on material misrepresentations by CMC that deprived the litigation of its legitimacy and threatened the fair and impartial functionality of the ITC; it is not binding in this action and does not insulate CMC from its anticompetitive conduct. There is no first amendment protection for furnishing an adjudicatory body with false information with predatory intent, as CMC has done.

191. On information and belief, including as set forth in above paragraphs 40-126, CMC knew that its '721 patent was unenforceable before filing its sham patent infringement claims in district court and the ITC against Counterclaim Plaintiffs.

192. On June 1, 2022, CMC filed a First Amended Complaint (D.I. 23) against Counterclaim Plaintiffs for patent infringement. In its First Amended Complaint, CMC re-asserted the '721 patent after Counterclaim Plaintiffs' allegations and counterclaims of inequitable conduct and unenforceability in the ITC Action.

193. On information and belief, including as set forth in above paragraphs 40-126, CMC knew that its '721 patent was unenforceable before filing its First Amended Complaint at least based on evidence of the same addressed in the ITC proceeding.

194. On information and belief, CMC filed its sham litigation lawsuits against Counterclaim Plaintiffs because CMC had the intent to prevent competition in the relevant market posed by Counterclaim Plaintiffs' products. CMC's intent to unlawfully prevent competition in the relevant market is [REDACTED], as discussed in ¶¶ 14-39 above.

195. On information and belief, CMC filed its baseless lawsuits against Counterclaim Plaintiffs because CMC recognized the competitive threat posed by Counterclaim Plaintiffs' products to CMC's market position in the relevant market. CMC's intent to unlawfully prevent competition in the relevant market is [REDACTED], as discussed in ¶¶ 86-90 above.

196. CMC filed and has continued to maintain and reassert sham, bad faith patent infringement claims against Counterclaim Plaintiffs in an effort to hinder Counterclaim Plaintiffs' market entry and growth and thereby reduce competition in the relevant market. CMC's intent to unlawfully prevent competition in the relevant market is [REDACTED], as discussed in ¶¶ 91-97 above.



197. As participants in the relevant market, Counterclaim Plaintiffs are directly affected by CMC's violations and have suffered direct antitrust injury as a result of these acts. The net result of CMC's anticompetitive actions is injury to both competition and consumers.

198. As demonstrated by its unlawful conduct described above and its [REDACTED], [REDACTED], on information and belief, CMC has the specific intent to monopolize the relevant market for CMP slurry products, through, *inter alia*, CMC's enforcement of the fraudulently-obtained '721 patent and [REDACTED]. [REDACTED] CMC's intent to unlawfully monopolize the relevant market for CMP slurry products is [REDACTED] [REDACTED] as discussed in ¶¶ 14-39, 111-126, above.

199. CMC's enforcement of the fraudulently obtained '721 patent includes filing multiple sham litigations and repeated complaints alleging infringement of the '721 patent.

200. CMC's anticompetitive conduct, including as described above and including the bad faith enforcement of the fraudulently obtained '721 patent via sham litigation against Counterclaim Plaintiffs in multiple venues, amounts to unlawful attempted monopolization in violation of Section 2 of the Sherman Act, 15 U.S.C. § 2.

201. Unless CMC's predatory and anticompetitive conduct is stopped, CMC will continue to maintain and enforce its predatory, exclusionary, and unfairly anti-competitive practices that are intended to and, if not checked, will monopolize, or will have a dangerous probability of success in monopolizing, the relevant U.S. market.

202. Counterclaim Plaintiffs have been directly harmed by CMC's misconduct in violation of the antitrust laws and are entitled to injunctive relief, damages, treble damages, and attorneys' fees under 15 U.S.C. § 15.

**SIXTH COUNTERCLAIM**  
**Violation of Delaware Common Law Unfair Competition**

203. Counterclaim Plaintiffs restate and reallege each of the foregoing paragraphs, including the prior counterclaims for Unreasonable Restraint of Trade in Violation of Section 1 of the Sherman Act, *Walker Process* Fraud, Bad Faith Prosecution of Patent Infringement Suits, and Attempted Monopolization in Violation of Section 2 of the Sherman Act, and Unenforceability Due to Inequitable Conduct, as if fully set forth herein.

204. CMC has violated Delaware common law unfair competition by interfering with Counterclaim Plaintiffs' business in an attempt to monopolize the relevant market, including as set forth in above paragraphs 14-39 and 86-126. As set forth above, including in paragraphs 98-110, any statute of limitations relating to the claims for relief alleged herein has been and is tolled due to CMC's affirmative acts of concealment and the inherently self-concealing nature of CMC's private, unregulated conduct.

205. As fully described above, CMC has interfered with Counterclaim Plaintiffs' business by engaging in unfair competition, including by, individually and collectively, [REDACTED]  
[REDACTED]  
[REDACTED] and fraudulently obtaining and enforcing the '721 patent against Counterclaim Plaintiffs via sham litigation.

206. Through these unfair actions with respect to Fuso, CMC is preventing Counterclaim Plaintiffs from legitimately earning revenue with competitive CMP slurry products in the relevant market.

207. Counterclaim Plaintiffs had a reasonable expectation of [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] after [REDACTED]

[REDACTED]

208. However, as fully described above, CMC wrongfully interfered with that expected

[REDACTED] preventing [REDACTED]

[REDACTED]

209. As fully described above, as a direct result of CMC's interference, Counterclaim Plaintiffs' legitimate expectation for a [REDACTED]

was defeated, causing Counterclaim Plaintiffs significant harm. Specifically, [REDACTED]

[REDACTED]

[REDACTED]. On information and belief, this was a direct result of CMC using its market power to [REDACTED] intended to prevent competition, including from Counterclaim Plaintiffs, from access to colloidal silica particles suitable for competitive CMP slurry products and to sell competitive CMP slurry products.

210. [REDACTED]

[REDACTED] as a direct result of [REDACTED].

211. CMC continued to interfere with Counterclaim Plaintiffs' [REDACTED]

[REDACTED] by fraudulently obtaining and enforcing the '721 patent against Counterclaim Plaintiffs via sham litigation, as fully described above, including asserting that the importation of Fuso BS-3 particles induced and contributed to the infringement of the '721 patent.

212. As a direct result of CMC's interference, Counterclaim Plaintiffs' legitimate [REDACTED] was defeated, causing Counterclaim Plaintiffs significant harm. Specifically, Counterclaim Plaintiffs were unable to [REDACTED] as a direct result of CMC's predatory and anticompetitive conduct alleged herein.

213. As a direct result of CMC's interference, Counterclaim Plaintiffs' legitimate expectation of a business relationship regarding BS-3 particles with Fuso was defeated, causing Counterclaim Plaintiffs significant harm. Specifically, Counterclaim Plaintiffs were unable to continue their business relationship with Fuso regarding BS-3 particles as a direct result of CMC's predatory and anticompetitive conduct alleged herein.

214. Based on CMC's predatory behavior as described above, Counterclaim Plaintiffs also (1) [REDACTED] [REDACTED] (2) were required and are required to litigate baseless claims of infringement in sham litigation in district court and at the ITC; and (3) as a result of the ITC Action, were forced to cease importation of BS-3 particles, preventing sales of the Accused Products. As set forth above, including in ¶¶ 91-97, the ITC action was decided on an incomplete record and premised on material misrepresentations by CMC that deprived the litigation of its legitimacy and threatened the fair and impartial functionality of the ITC; it is not binding in this action and does not insulate CMC from its anticompetitive conduct. There is no first amendment protection for furnishing an adjudicatory body with false information with predatory intent, as CMC has done.

215. Counterclaim Plaintiffs are entitled to recover from CMC the damages sustained as a result of its unfair competition activities, including, without limitation, lost profits caused by CMC's unfair competition.

**SEVENTH COUNTERCLAIM**  
**Delaware Tortious Interference with Prospective Business Relations**

216. Counterclaim Plaintiffs restate and reallege each of the foregoing paragraphs, including the prior counterclaims for Delaware Common Law Unfair Competition, Unreasonable Restraint of Trade in Violation of Section 1 of the Sherman Act, *Walker Process* Fraud, Bad Faith Prosecution of Patent Infringement Suits, and Attempted Monopolization in Violation of Section 2 of the Sherman Act, and Unenforceability Due to Inequitable Conduct, as if fully set forth herein.

217. CMC has tortiously interfered with Counterclaim Plaintiffs' prospective business relations by intentionally interfering with Counterclaim Plaintiffs' relationship with Fuso in an attempt to monopolize the relevant market, including as set forth in above paragraphs 14-39 and 86-126. As set forth above, including in ¶¶ 98-110, any statute of limitations relating to the claims for relief alleged herein has been and is tolled due to CMC's affirmative acts of concealment and the inherently self-concealing nature of CMC's private, unregulated conduct.

218. As fully described above, including as set forth in above paragraphs 14-39 and 86-126, CMC has interfered with Counterclaim Plaintiffs' business by, individually and collectively, [REDACTED] preventing Counterclaim Plaintiffs' access to Fuso particles, such as Fuso BS-2H particles, and fraudulently obtaining and enforcing the '721 patent against Counterclaim Plaintiffs via sham litigation, interfering with Counterclaim Plaintiffs' relationship with Fuso and forcing Counterclaim Plaintiffs to cease use of [REDACTED] BS-3 particles.

219. Through these unfair actions, CMC is preventing Counterclaim Plaintiffs from legitimately earning revenue with competitive CMP slurry products in the relevant market.

220. Counterclaim Plaintiffs had a reasonable probability of [REDACTED]  
[REDACTED]

[REDACTED]  
[REDACTED] after  
[REDACTED]

221. However, as fully described above, CMC wrongfully and intentionally interfered with that expected [REDACTED] with [REDACTED] [REDACTED]  
[REDACTED].

222. As fully described above, as a direct result of CMC's intentional interference, Counterclaim Plaintiffs' legitimate expectation [REDACTED]  
[REDACTED] was defeated, causing Counterclaim Plaintiffs significant harm.  
[REDACTED]  
[REDACTED]. On information and belief, this was a direct result of CMC using its market power to [REDACTED]  
prevent competition, including from Counterclaim Plaintiffs, from access to colloidal silica particles suitable for competitive CMP slurry products and to sell competitive CMP slurry products.

223. As a direct result of CMC's interference, Counterclaim Plaintiffs' legitimate expectation of [REDACTED] was defeated, causing Counterclaim Plaintiffs significant harm. Specifically, Counterclaim Plaintiffs were unable to [REDACTED] as a direct result of CMC's predatory and anticompetitive conduct alleged herein.

224. Counterclaim Plaintiffs had a reasonable probability of continuing a valid business relationship with Fuso regarding the BS-3 particles, which is supported by the shipment of BS-3 particles for research and development of CMP slurries from Fuso to Counterclaim Plaintiffs.

225. However, as fully described above, CMC wrongfully interfered with that expected business opportunity with Fuso through its sham litigation at the ITC preventing Counterclaim Plaintiffs from purchasing and using BS-3 particles. As set forth above, including in ¶¶ 91-97, the ITC action was decided on an incomplete record and premised on material misrepresentations by CMC that deprived the litigation of its legitimacy and threatened the fair and impartial functionality of the ITC; it is not binding in this action and does not insulate CMC from its anticompetitive conduct. There is no first amendment protection for furnishing an adjudicatory body with false information with predatory intent.

226. As fully described above, as a direct result of CMC's intentional interference, Counterclaim Plaintiffs' legitimate expectation for an ongoing business opportunity involving BS-3 particles with Fuso was defeated, causing Counterclaim Plaintiffs significant harm. Specifically, after the limited exclusion order issued at the ITC, Counterclaim Plaintiffs were forced to cease their use of BS-3 particles. On information and belief, this was a direct result of CMC improperly asserting the '721 patent via sham litigation to prevent competition, including from Counterclaim Plaintiffs, from access to colloidal silica particles suitable for competitive CMP slurry products and to sell competitive CMP slurry products.

227. As a direct result of CMC's interference, Counterclaim Plaintiffs' legitimate expectation of a business opportunity regarding BS-3 particles with Fuso was defeated, causing Counterclaim Plaintiffs significant harm. Specifically, Counterclaim Plaintiffs were unable to continue the business relationship with Fuso regarding BS-3 particles as a direct result of CMC's predatory and anticompetitive conduct alleged herein.

228. Based on CMC's predatory behavior as described above, Counterclaim Plaintiffs also (1) [REDACTED]

[REDACTED]; (2) were required and are required to litigate baseless claims of infringement in district court and at the ITC; and (3) were forced, as a result of the ITC Action, to cease importation of BS-3 particles, preventing sales of the Accused Products.

229. Counterclaim Plaintiffs are entitled to recover from CMC the damages sustained as a result of its tortious interference, including, without limitation, lost profits caused by CMC's tortious interference.

**EIGHTH COUNTERCLAIM**  
**Unenforceability Due to Patent Misuse**

230. Counterclaim Plaintiffs restate and reallege each of the foregoing paragraphs, including the prior counterclaims for Declaratory Judgment of Non-Infringement of U.S. Patent No. 9,499,721, Declaratory Judgment of Invalidity of U.S. Patent No. 9,499,721, Declaratory Judgment of Unenforceability Due to Inequitable Conduct, Declaratory Judgment of Invalidity of U.S. Patent No. 9,499,721 Tortious Interference with Prospective Business Relations, Delaware Common Law Unfair Competition, Unreasonable Restraint of Trade in Violation of Section 1 of the Sherman Act, *Walker Process* Fraud, Bad Faith Prosecution of Patent Infringement Suits, and Attempted Monopolization in Violation of Section 2 of the Sherman Act, as if fully set forth herein.

231. The '721 patent is unenforceable under the doctrine of patent misuse based on CMC seeking to impermissibly broaden the physical or temporal scope of the patent in a manner that has anticompetitive effects.

232. On information and belief and as reflected in in above paragraphs 14-97, with respect to Counterclaim Plaintiffs, CMC has [REDACTED] filed and prosecuted the application leading to the '721 patent with a pattern of deceptive conduct that constitutes affirmative egregious misconduct; asserted the '721 patent against Counterclaim Plaintiffs via sham litigation knowing it is unenforceable and invalid; making tortious accusations



and false accusations to current and potential customers of Counterclaim Plaintiffs; and repeatedly asserted the '721 patent against Counterclaim Plaintiffs in multiple forums in bad faith via sham litigation.

233. For example, impermissibly broadening the physical or temporal scope of the '721 patents with an anticompetitive effect, CMC asserted in the ITC case that the importation of Fuso BS-3 particles induced and contributed to the infringement of the '721 patent and obtained a judgment from the ITC on this basis. However, on information and belief and as reflected in CMC documents, including as set forth in above paragraphs 40-85 and 91-97, [REDACTED] [REDACTED] prior to the filing date of the application for the '721 patent but withheld this information from the PTO with an intent to deceive; knowingly falsely argued to the ITC that Fuso BS-3 particles were specially made or adapted for use in an infringement of the '721 patent, are not staple articles of commerce suitable for substantial non-infringing use, and that Counterclaim Plaintiffs were involved in the design, research and development, or manufacture thereof; and inconsistently has not alleged that sales or exports by Fuso of BS-3 particles and importation of BS-3 particles by others into the United States induces or contributes to the infringement of the '721 patent.

234. For example, impermissibly broadening the physical or temporal scope of the '721 patent with an anticompetitive effect, CMC asserted the '721 patent in the ITC while, on information and belief, including as set forth in above paragraphs 40-85 and 91-97, knowingly mischaracterizing the prior art status of Fuso colloidal silica particles that would have rendered the claims anticipated, obvious, and/or not infringed.

235. Thus, CMC has committed patent misuse by impermissibly broadening the physical and temporal scope of the '721 patent, with an anticompetitive intent and effect rendering the patent unenforceable.

**PRAYER FOR RELIEF**

WHEREFORE, Counterclaim Plaintiffs respectfully ask that the Court award judgment in favor of Counterclaim Plaintiffs and against CMC and grant the following relief:

- A. Declare that Counterclaim Plaintiffs have not, do not, and will not infringe any valid and enforceable claim of the '721 patent;
- B. Declare that the claims of the '721 patent are invalid;
- C. Declare that the '721 patent is unenforceable;
- D. Enjoin and restrain CMC and its officers, agents, servants, employees, attorneys, and those persons in active concert or participation with it from pursuing further charges of infringement or acts of enforcement based on the patents-in-suit against Counterclaim Plaintiffs or its actual and prospective business partners, customers, suppliers, clinical investigators, and anyone in privity with Counterclaim Plaintiffs;
- E. A judgment that: (i) CMC has falsely and misleadingly accused Counterclaim Plaintiffs' products of infringement; (ii) CMC has committed unfair competition with respect to the Accused Products; and (iii) CMC has tortiously interfered with Counterclaim Plaintiffs' prospective business relations;
- F. Enjoin and restrain CMC and its officers, agents, servants, employees, attorneys, and those persons in active concert or participation with it from all unfair competition, tortious interference, restraint of trade, and attempted monopolization;
- G. An order awarding Counterclaim Plaintiffs compensation for any and all damages, injury or harm;

- H. An order directing CMC to pay full restitution and/or disgorgement of all profits, and benefits that may have been obtained as a result of its wrongful conduct;
- I. An order awarding Counterclaim Plaintiffs treble and/or increased damages resulting from Plaintiff's willful and intentional conduct;
- J. An order awarding Counterclaim Plaintiffs treble and/or increased damages and attorneys' fees under 15 U.S.C. § 15;
- K. Deny CMC any request for injunctive relief and any other remedy available under Title 35 of the United States Code;
- L. Declare that this is an exceptional case in favor of Counterclaim Plaintiffs and award Counterclaim Plaintiffs their reasonable attorneys' fees pursuant to 35 U.S.C. § 285;
- M. An order that this case is "exceptional" within the meaning of 15 U.S.C. § 1117, and awarding Counterclaim Plaintiffs their reasonable costs and attorneys' fees;
- N. Award Counterclaim Plaintiffs taxable costs and interest; and
- O. Award any and all such relief as the Court determines to be just and proper, including pursuant to 28 U.S.C. § 2202.

#### **DEMAND FOR JURY TRIAL**

Counterclaim Plaintiffs demand a trial by jury on all issues so triable.

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Respectfully submitted,

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